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Stuart Beller — Clifford Wells

A Pictorial Lesson in Amateur Wrestling
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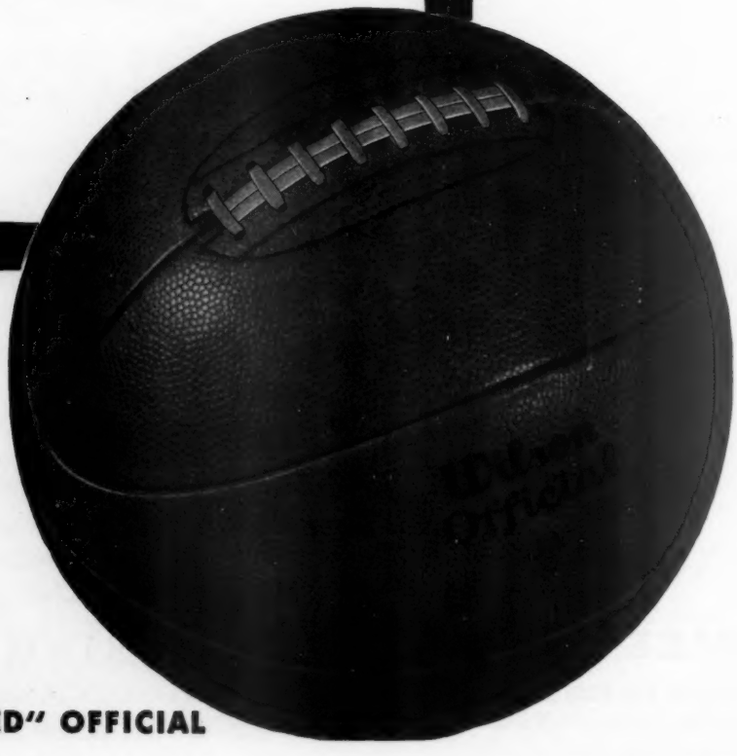

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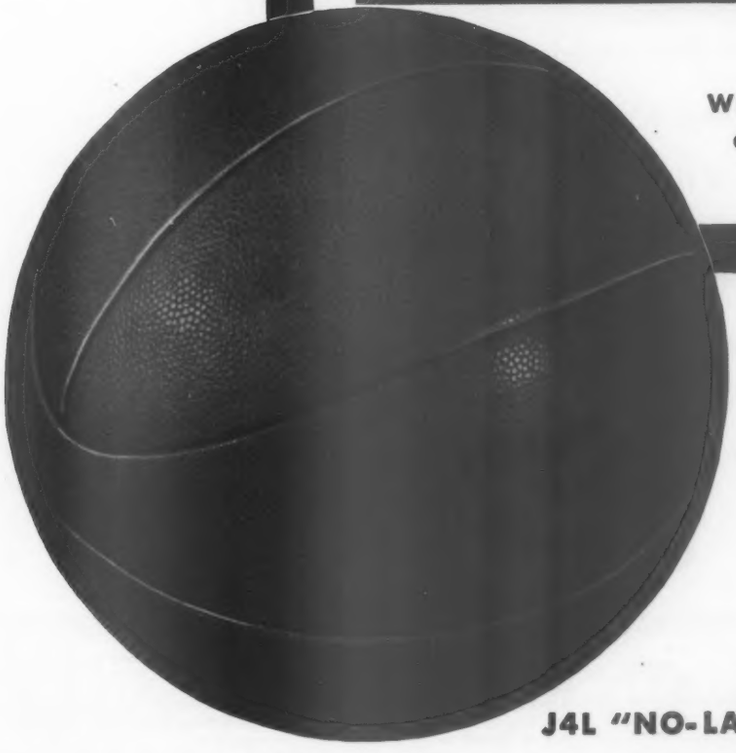

J4L "NO-LACE" OFFICIAL

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Christmas Greetings

THE ATHLETIC JOURNAL takes this opportunity of wishing all of its readers a Merry Christmas and a Happy New Year.

IF the people of any other country in the world were in as prosperous a condition as are the people of this country, after five years of depression, these citizens of foreign countries would indeed feel that they were living in a boom period. We should be thankful that conditions are as good as they are.

IN comparatively few countries today are the people permitted to enjoy freedom of speech, freedom of press and freedom of assembly. We should be thankful that here in America we still have freedom of speech.

THE Editor of THE ATHLETIC JOURNAL is grateful that he is living in this, the most interesting time in the history of the world. He appreciates the fact that he has been permitted to serve, if in but a small way, the coaches in the schools and colleges. He wishes for each coach a fair field and knows that none would want any favors shown him. He congratulates the coaches because they have the opportunity of helping to develop self-reliant American citizens.

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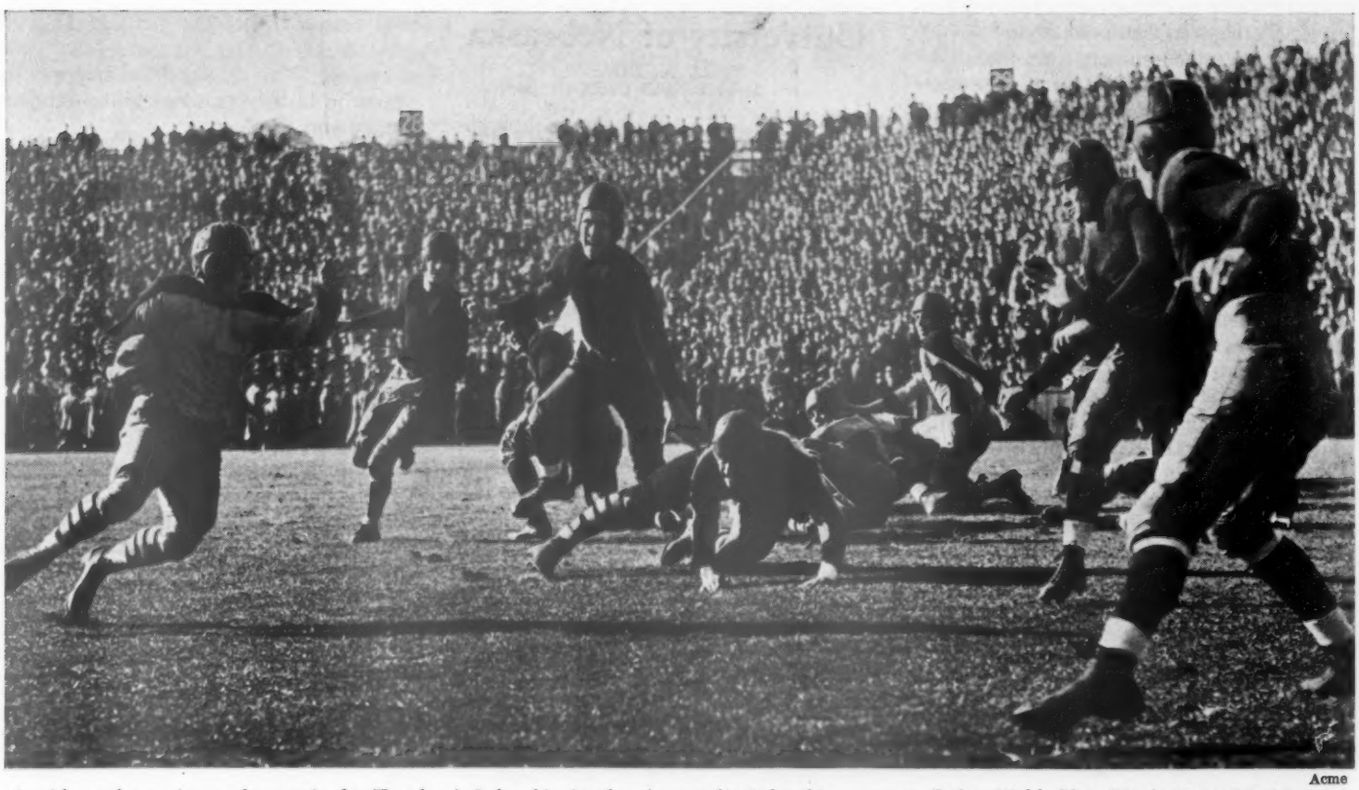


Acme

A wide end run for a short gain by Tomb of Columbia in the Annapolis-Columbia game at Baker Field, New York City, October 20th

Informal Review of Intercollegiate Football—1934

TWO significant facts relative to intercollegiate football are revealed through the answers to a questionnaire submitted to coaches of representative college teams.

First, there was an increase in attendance over recent years, and, second, football was this year a more open, more colorful type of game than in past seasons.

The increase in attendance tends to indicate that interest in football has existed all through the depression years, and that the lower attendance figures from 1930 through 1933 were the result of financial inability to attend games rather than the absence of a desire to do so.

The more open game may be traced only in part to very recent changes in the rules. A better reason for it seems to be a wider appreciation by coaches of the lateral and forward passes, and increased ability on the part of players to execute these two types of passes.

Following are the coaches' reports.

University of New Hampshire

By W. H. Cowell
Head Football Coach

THE number of candidates out for our squad this season was a little larger than in previous years. There was more enthusiasm over football in the student body than there was even in 1929. With us there was an increase in attendance at football games this year over the games of a year ago.

Decidedly more open play, especially in the use of laterals, was noted this year. Forward passes probably doubled in number. Lateral and forward passes in combination were used by the majority of Eastern college teams.

In general, this year's changes have decidedly opened up the game and, as a result, football is a much more colorful game for spectators. The general public prefers the open, spectacular contest. The Eastern teams, at the same time they have adopted the decidedly open game, have abandoned the ultra conservative dress in uniforms in favor of colorful, even brilliant, football apparel.

Cornell University

By Gilmour Dobie
Head Football Coach

THE size of our squad does not vary from year to year to any substantial degree. It runs about five teams, or fifty-five men. In addition to this group, we have the so-called "All-Americans" or "scrubs," who constitute about twenty more.

Interest in and enthusiasm for football does not vary much among the non-playing students. Naturally, there is more talk about football in years when we have a good team than there is when we have a poor one. The number which comes to the games, however, remains about constant.

In the games which I saw this year, passing and open play were interspersed with power plays just about as they usually have been.

Princeton University

By Herbert O. Crisler
Head Football Coach

THE size of the Princeton football squad compared favorably with the numbers in other years. It was somewhat smaller than the group of 1933, but this may be accounted for in our heavy losses by graduation and by the size of the class of 1937, which does not match the 1936 class in numbers.

A far greater interest and enthusiasm in the student body was in abundant evidence this year over former seasons. More undergraduates attended practices and games this year than in the immediate

past. Perhaps we can account for this by the fact that the students were permitted to attend secret practice three days each week. While we did not take many trips to meet our opponents, the team was generously supported by undergraduate attendance in the few trips we took.

Our attendance records have shown a decided increase from year to year since 1932.

Offensively there was a marked tendency toward open play. Forward and lateral passing was used more than ever before. Forward laterals and downfield laterals after a run were employed as long gainers and scoring plays. Pittsburgh used a down-field lateral off a spinner to score against Minnesota. Laterals and forward-laterals were the Navy "gems" that sent a great Columbia team down in defeat.

Greater elasticity was employed on defense. Rutgers, for instance, huddled defensively before each play and then deployed into any one of five formations to meet the attack.

North Carolina State College

By Heartly W. Anderson
Head Football Coach

WE had about fifty boys out for our varsity squad, which was an increase in number of about fifteen men, as the squad usually in previous years had about thirty-five men.

The student body had more enthusiasm this year than previously, even in 1929. All the teams of North Carolina this year showed improvement and all seemed to play better offensive ball. Attendance this year was about 30 per cent higher than it was a year ago.

There was a great deal more forward passing and open play this year than previously, especially down near the goal line. This was on account of the new rule. In practically all the games played around here this year there were from twelve to fifteen passes in each game. There was a great tendency to throw a pass on the first down, then try two running plays and throw a pass on the fourth down.

Football in this district seems to lean a great deal toward spinner plays. Every team in this section of the country I have seen play has used spinner plays of some sort or another and spinner passes, trying to make the attack more deceptive.

There was nothing unusual this year in regard to any new formations on offense. In regard to defense, there seemed to be a leaning toward the 6-2-2-1 formation a great deal, and also the 7-1-2-1. There did not seem to be so many teams using the 7-2-2 formation as there used to be. When the 6-2-2-1 was used, the safety man was back. When the 7-2-2 was used, the offensive team often took advantage of it to make gains on long passes. It looks as if the 7-2-2 formation is on its way out.

University of Nebraska

By D. X. Bible
Head Football Coach

FOOTBALL interest was keen throughout the Missouri Valley region. Favorable weather, good-sized squads and intense rivalry in early games combined to provide a series of interesting contests and some unusually fine crowds.

Our squad was equal in size to those of any of the previous years and slightly larger than that of last year. Enrollment has increased, and the freshman squad was slightly larger. This, I feel, is also true at other institutions in this region.

Student interest was at high pitch. We had this year the best sale of student tickets that we have ever had, and the rallies before all games were well attended; in fact, conditions were the best since I have been at Nebraska. I understand a similar situation prevailed throughout the section, except in a few instances where prospects were poor and the teams were losing.

Football interest increased all over the Missouri Valley, in spite of discouraging crop conditions. At Nebraska, in three early games we played to 85,000 spectators, which was within 30,000 of an all-time season high. On October 13th we drew 35,000 to the Nebraska-Iowa game at Lincoln. Our season ticket sale was the largest in history in all sections—student, faculty and fans.

The trend in this part of the country was toward more open play and use of the forward and backward passes. There was not so much shoulder-to-shoulder, straight-ahead play.

Vanderbilt University

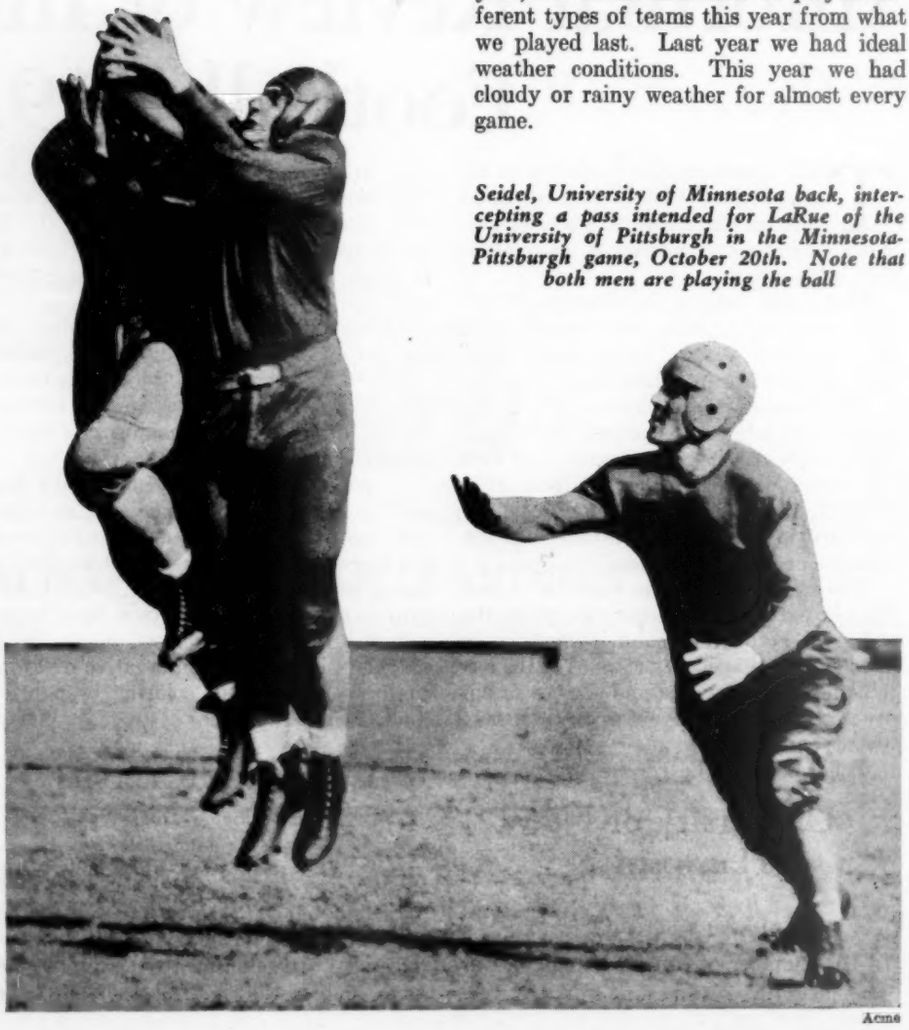
By H. Russell Cohen
Assistant Football Coach

OUR squad was a little smaller in number than in 1933.

We doubt whether there was quite so much enthusiasm among the students now as there was in 1929. However, the enthusiasm among them was better than for several years.

In all the games we played this year, forward passing increased a great deal over what it was in previous years. The only special trends or developments that we noted were attempts to throw passes in the end zones on first, second and third downs, thus taking advantage of the new rule.

It is hard for us to estimate our attendance as compared to the attendance of last year, due to the fact that we played different types of teams this year from what we played last. Last year we had ideal weather conditions. This year we had cloudy or rainy weather for almost every game.



Seidel, University of Minnesota back, intercepting a pass intended for LaRue of the University of Pittsburgh in the Minnesota-Pittsburgh game, October 20th. Note that both men are playing the ball

Acme

University of Washington

By James Phelan
Head Football Coach

THE University of Washington varsity squad was composed of forty-five men, which is about twenty less than we have averaged during the past four years. Our freshman squad was much larger in number than usual, but it was decidedly lacking in individual stars, and the average size of individuals was very much under Pacific Coast Conference specifications.

There was more football enthusiasm in both the student body and among the townspeople of Seattle than we have had for several years.

The early games on the Pacific Coast showed an increase in the use of the forward pass, but this was due to the fact that the major teams played weaker ones, and the weaker teams resorted to a desperate use of the forward pass. In closely contested games where the teams were of equal strength, the change in the pass rule, eliminating the 5-yard penalty for incompleted passes did not seem conducive to a haphazard throwing of the ball. The 5-yard penalty was not a serious set-back to a team on offense, as the kick could

(Continued on page 34)

Hints to Ice Hockey Players

By Harry W. Baldwin
New Brunswick, New Jersey, High School

THERE are many helpful hints that may be given to an athlete which will, if practiced over a period of a year or so, greatly improve his ability as a hockey player.

One thing which is found lacking in many hockey players is the so-called instinctive move. It seems to come hard to some and automatically easy to others. By the instinctive move we mean the sensing of when to "jump" with a team mate, where to "jump"—right or left of him, according to where the team mate has obtained control of the puck—and where to make or receive the most deceptive pass, or where and when to make the most effective play. This is the hardest factor to teach. It is practically impossible to teach it on paper, but if the young athlete will play with an experienced player who makes his moves on the offense and defense instinctively, it will help the former to understand and acquire this important ability.

The passing of the puck accurately and smoothly is very essential. Often the puck is raised, and, as a result, many times the pass is not accurate enough to be received by a team mate. In general, the trouble is that the puck is passed as the player would shoot at a goal. Passing should be an altogether different movement from shooting. In the first place, there should be no twisting of the wrist in passing, as in shooting; and, in the second place, the player should be sure the stick is on the ice at the start of the pass and remain on the ice when the puck leaves the stick.

When the puck is passed, it does not always come to the player in position to be gathered in easily. Sometimes it is too far in front, other times too near the feet. If it is out too far, the player may aid himself in gathering it in by bringing his lower hand up the stick (more reach may be secured if only one hand is used) and lowering his hands (or hand) almost to the ice and turning the toe of the stick over so that it, too, is in contact with the ice. If the pass is too near the skate, the player will find it possible to gather in the puck successfully by simply running the lower hand down the stick toward the heel of it. This automatically brings the heel right in by the skate. Then, with a little push forward, the player may have the puck again in correct carrying position.

The ice hockey rink at Lake Placid, New York

Normally, the player holds his hands about a foot or two feet apart on the stick, but there are three times when it is advisable to shift the lower one down. The first is mentioned above. The second is on a face-off. The stick is a lever, and, if the hand is lower on the stick, not only does the player get more power with which to gain possession of the puck on a face-off, but he may slap or pass it to a team mate more quickly. The third time, and a very important one, is when the player is in front of the opponents' goal, waiting for a pass out from the side or from behind the cage. Whether covered or not, the player must get the shot away fast. It is helpful, therefore, to have the lower hand even lower on the stick than usual so that more power may be given at the moment of contact of the puck and the stick, and, too, the shot may be fired more quickly.

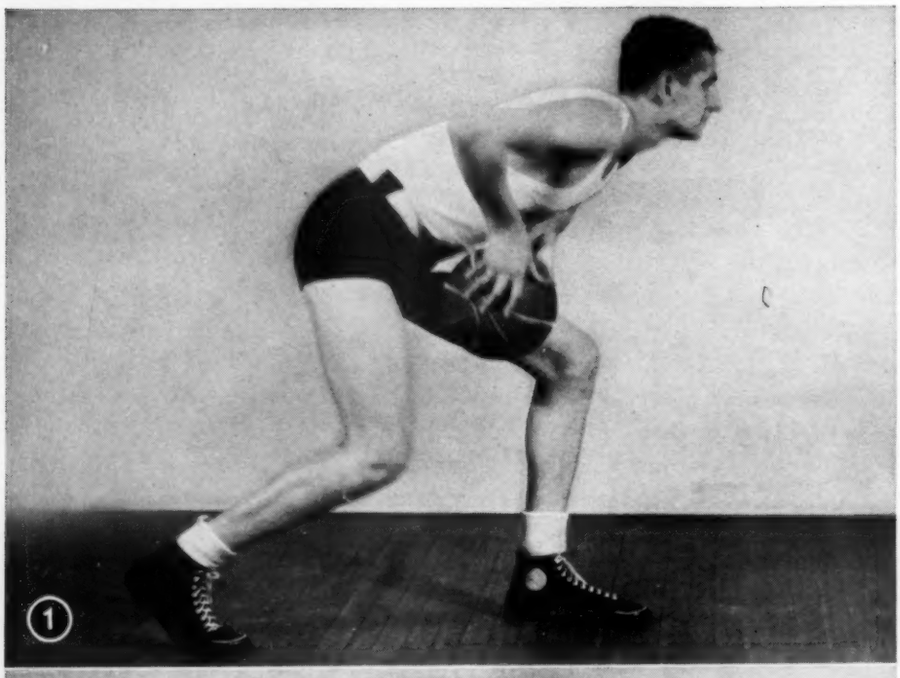
A small point to be remembered is that if, when skating along the boards with the puck, the player shoots the puck to the boards in order to go by an opponent, the play is effective only if the puck goes to the inside, and the player skates to the outside of the opponent, gathering up the puck beyond him.

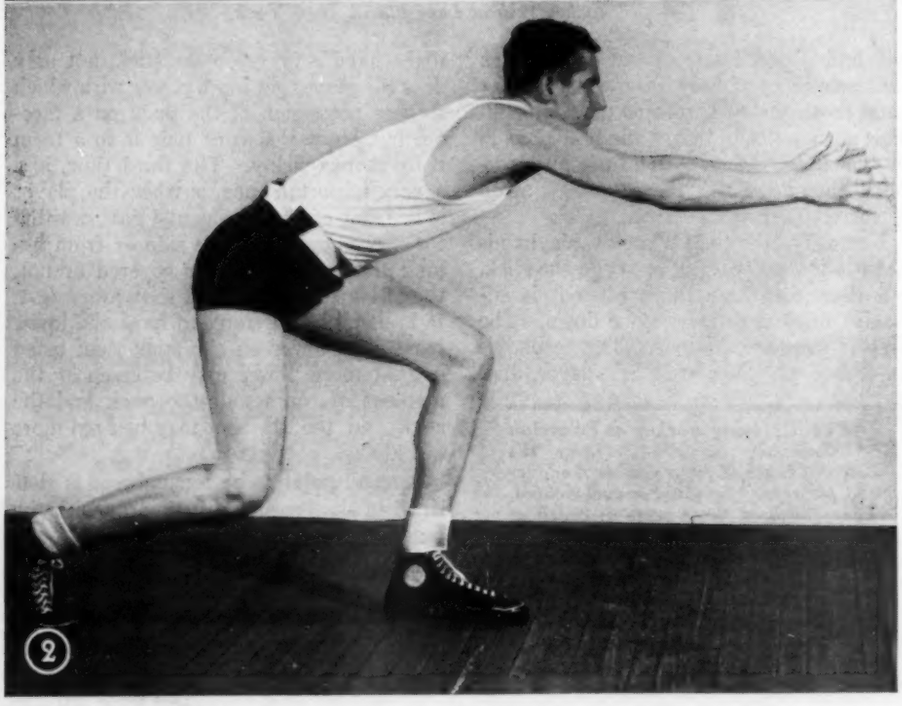
AFTER playing hockey at Princeton University in 1924, Harry W. Baldwin coached for a year at Andover and for three years at Pomfret School. Then followed three years as coach of ice hockey at Williams College. He is now Director of Physical Education at New Brunswick, New Jersey. With Gerard Hallock III, he is the author of a book on ice hockey. He is a member of the Eastern Hockey Officials Association.

Hand Positions in Passing and Shooting a Basketball

By J. Craig Ruby
Coach of Basketball, University of Illinois

THIS series of pictures is an attempt to illustrate the correlation between the hand positions on a basketball in passing and shooting. It is a well known fact that players seldom change their hand positions on a ball after they have received a pass and before they shoot at the basket. Since a player receives and passes the ball much more frequently than he shoots, he will generally habitualize himself in shooting with the same hand position as that used in passing. Many shooting faults, and particularly an improper follow-through, may be traced to the wrong hand position on the ball.





Passes which require the hands to be back of the axis of the ball as in Illustrations 1, 2, 5 and 6 are conducive to fine finger follow-through and therefore are related to the shots shown in Illustrations 3, 4, 7 and 8. But passes which demand that the hand be placed over the axis of the ball, as in Illustration 9, are not conducive to good chest shots but encourage hook shooting.

The seams on the ball used in taking these pictures have been whitened in order to bring out more clearly the hand positions.

Illustration 1 shows a player in position to throw a two-hand underhand pass. Note that the finger tips are just over the axis of the ball.

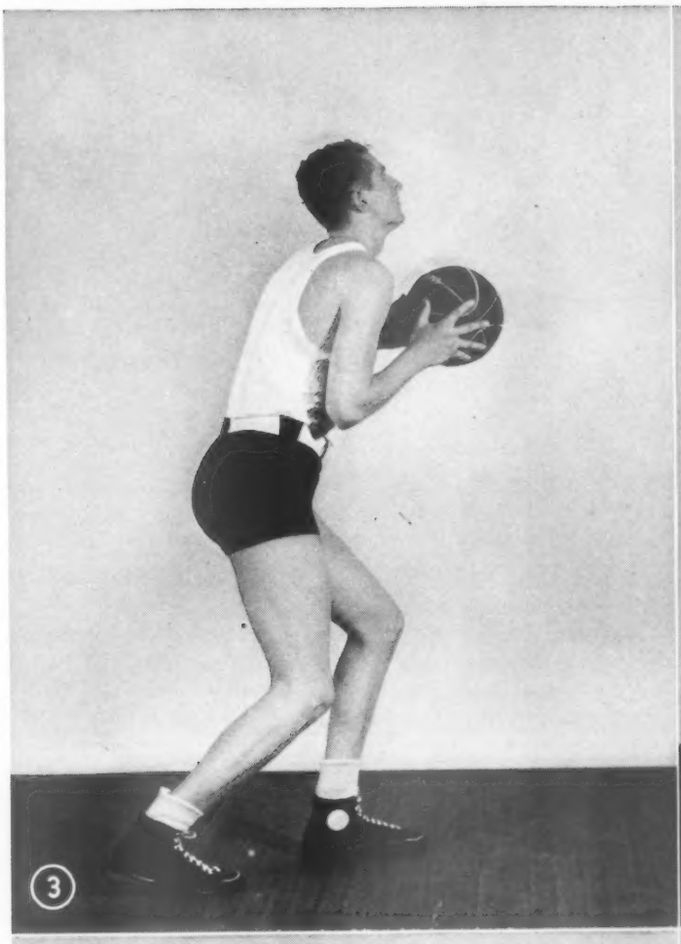
Illustration 2 shows the hand positions just after the ball has left the hands in the underhand pass. The position of the hands indicates that the ball left the finger tips.

Illustration 3 shows that the player has changed his intention from an underhand pass (Illustration 1) to a shot at the basket. The position of the arms and body has changed, but that of the hands has not.

Illustration 4 shows that the hand position on the ball shown in Illustration 3 permits the ball to leave the finger tips in an excellent follow-through, the same as in the underhand pass (Illustration 2).

Illustration 5 shows a player poised for a push pass. Here the hands are farther behind the axis of the ball than in Illustrations 1 and 3. The passer stands more nearly erect, because leg action is not needed to help propel the ball.

Illustration 6 shows the follow-through of the push pass. The ball has left the finger tips as in the case of the underhand pass in Illustration 2.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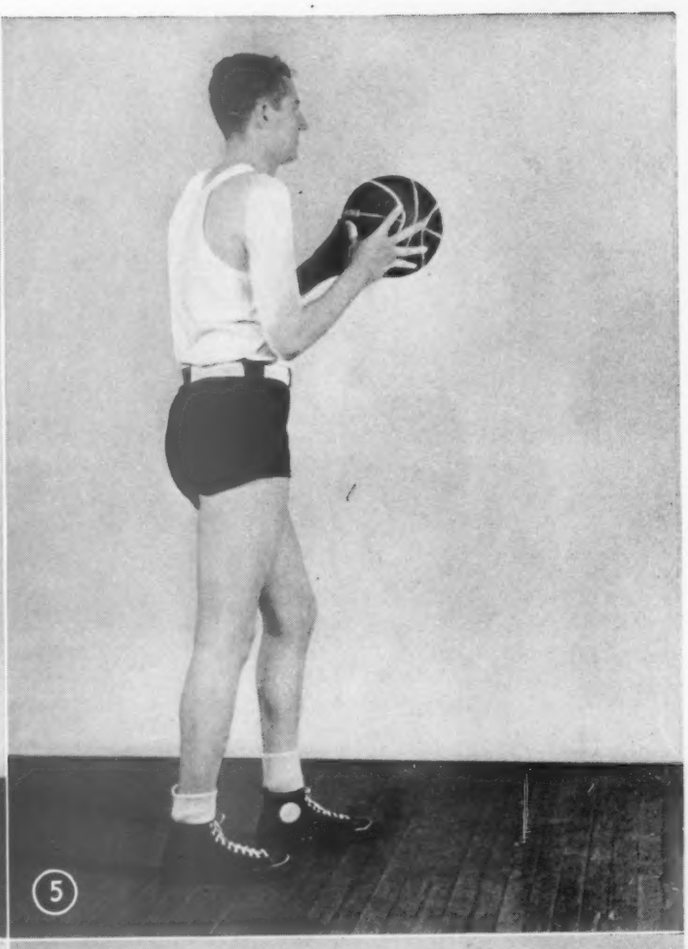
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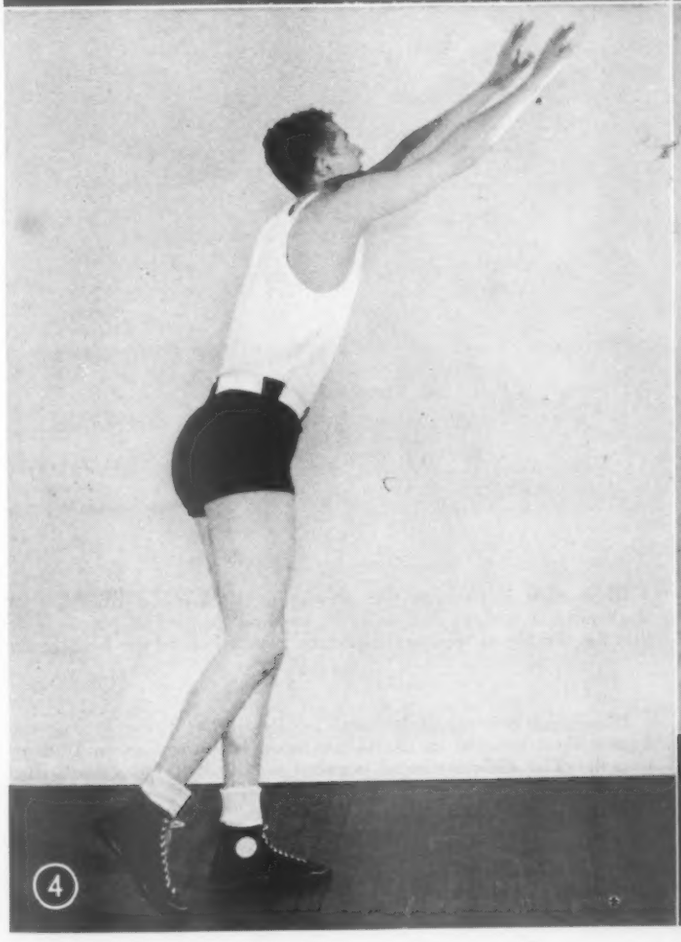
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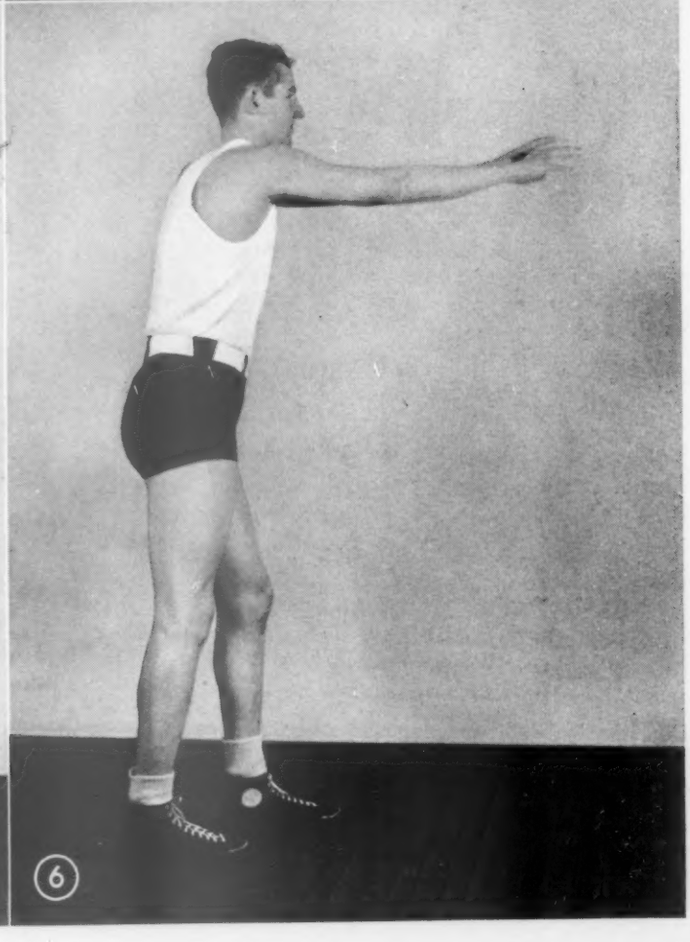
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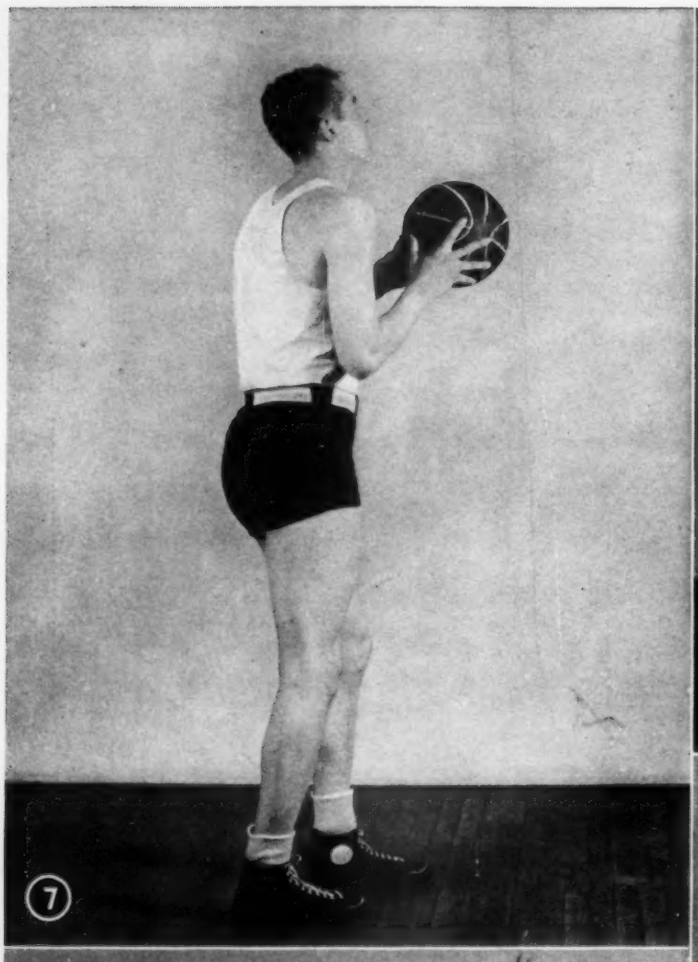
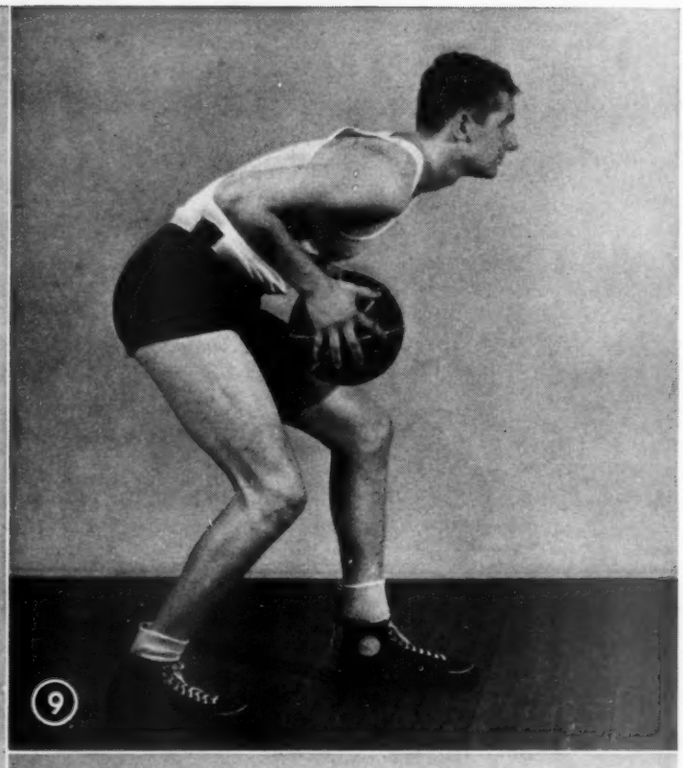
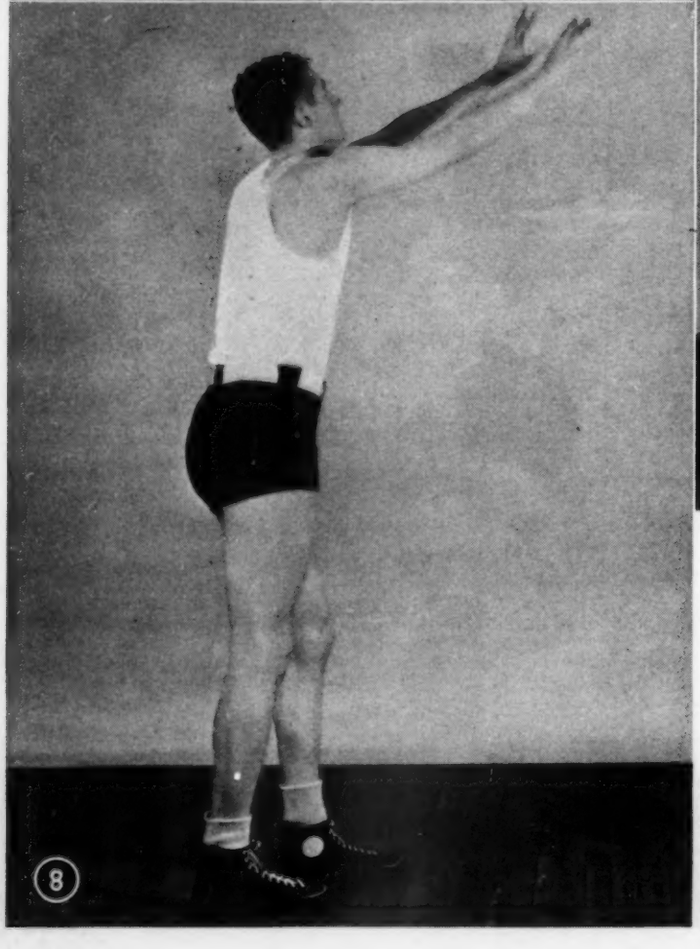






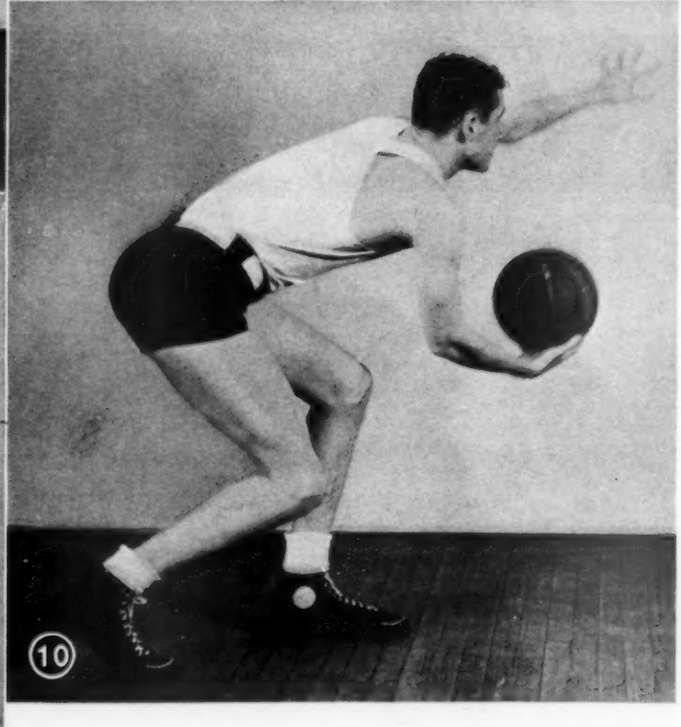


Illustration 7 pictures the player in the same position as in Illustration 5, except that he is set to shoot instead of pass. Note that the thumb, as well as the fingers, is well behind the ball.

Illustration 8 is much the same as Illustration 4, except that the fingers slant upward in the follow-through more than in Illustration 4. The different hand position on the ball has caused this.

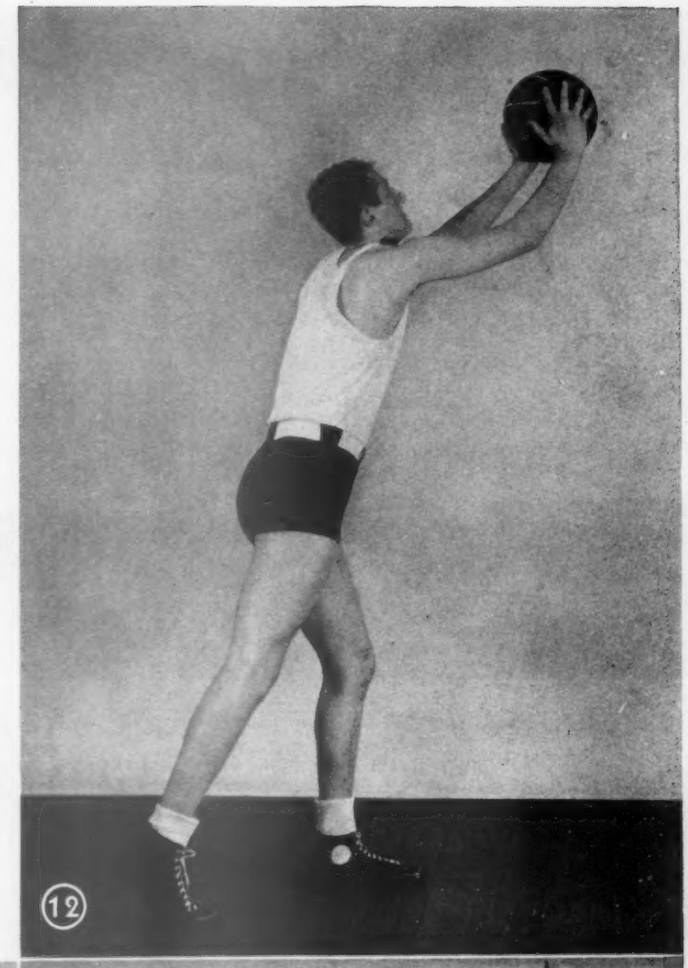
Illustration 9 shows a player poised for a "blind," a hook pass, a bounce pass with English on it or a protected pass. Note that the hands are well over the axis of the ball. This makes for very expert passing.

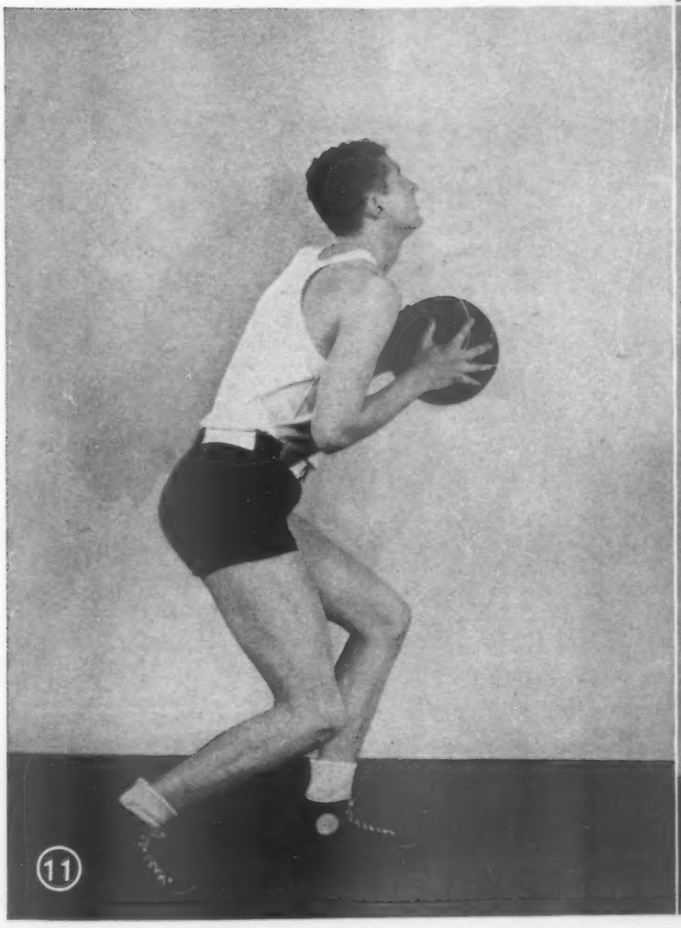
Illustration 10 shows the player throwing a protected pass from the Illustration 9 position. The left arm is thrown upward to protect the ball from an opponent. To make this pass accurately, it is necessary that the right hand be placed well over the axis of the ball in the beginning. It would not be possible to throw this pass well from the Illustration 1 or the Illustration 5 position.

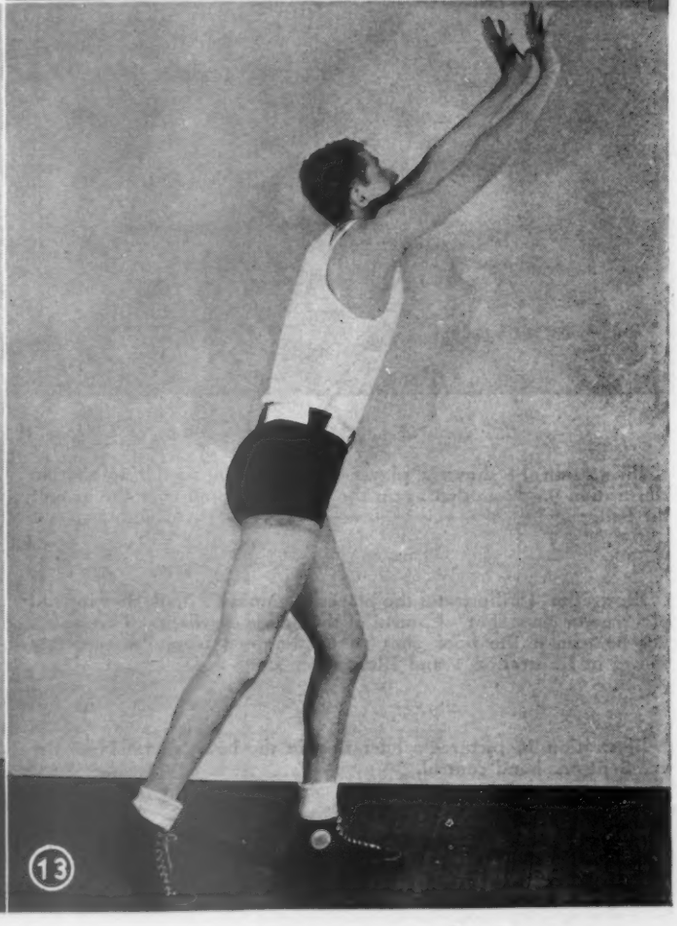
Illustration 11 shows the player after having brought the ball up into a shooting position from that in Illustration 9. He is now poised for a shot, wth both hands well over the axis of the ball.

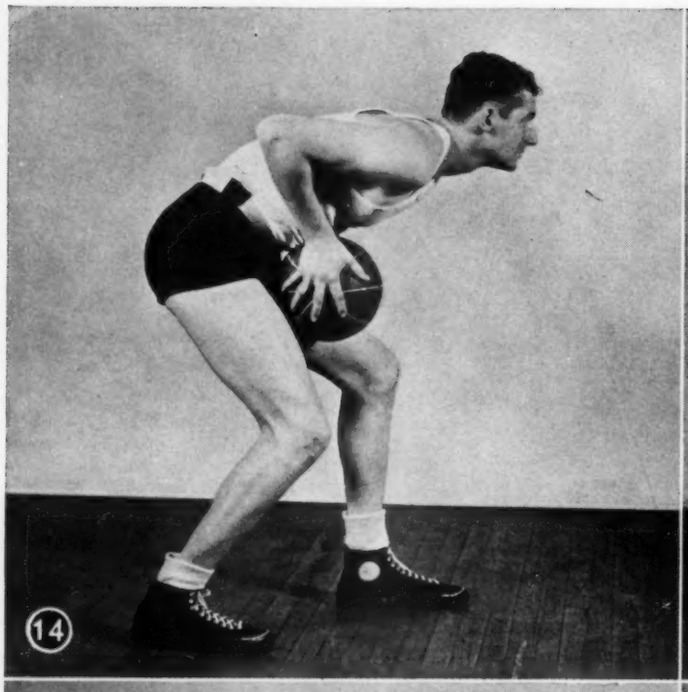
Illustration 12 shows the hand position on the ball the instant before it is released. Because the finger tips are over the axis of the ball, it cannot leave the hands from the fingers but must leave from the outside (little finger side) of the hands. The hands are moving in an upward and slightly backward arc at the moment of delivery. Good finger touch is not possible with the ball held in this manner.

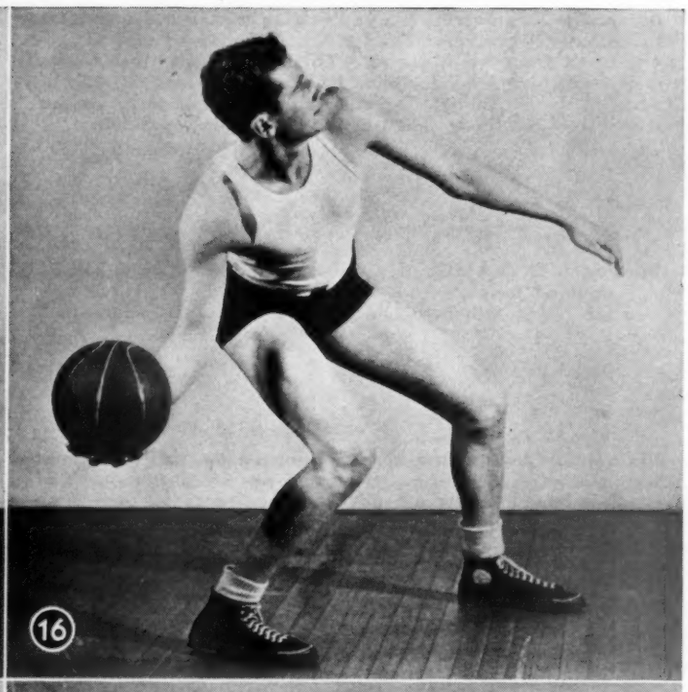
Illustration 13 shows the follow-through caused by this hand position on the ball. Since the ball could not leave the finger tips, this follow-through has resulted. Obviously this sort of delivery cannot be so accurate as those types shown in Illustration 4 and Illustration 8.

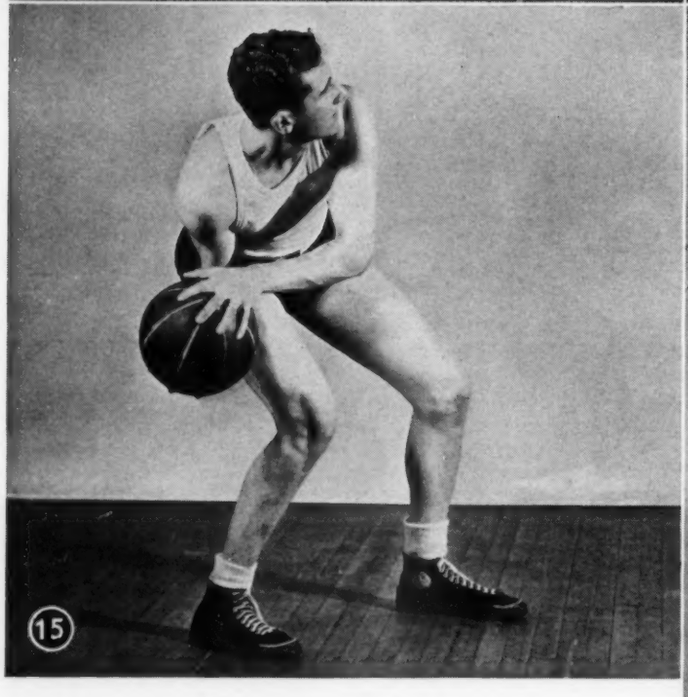












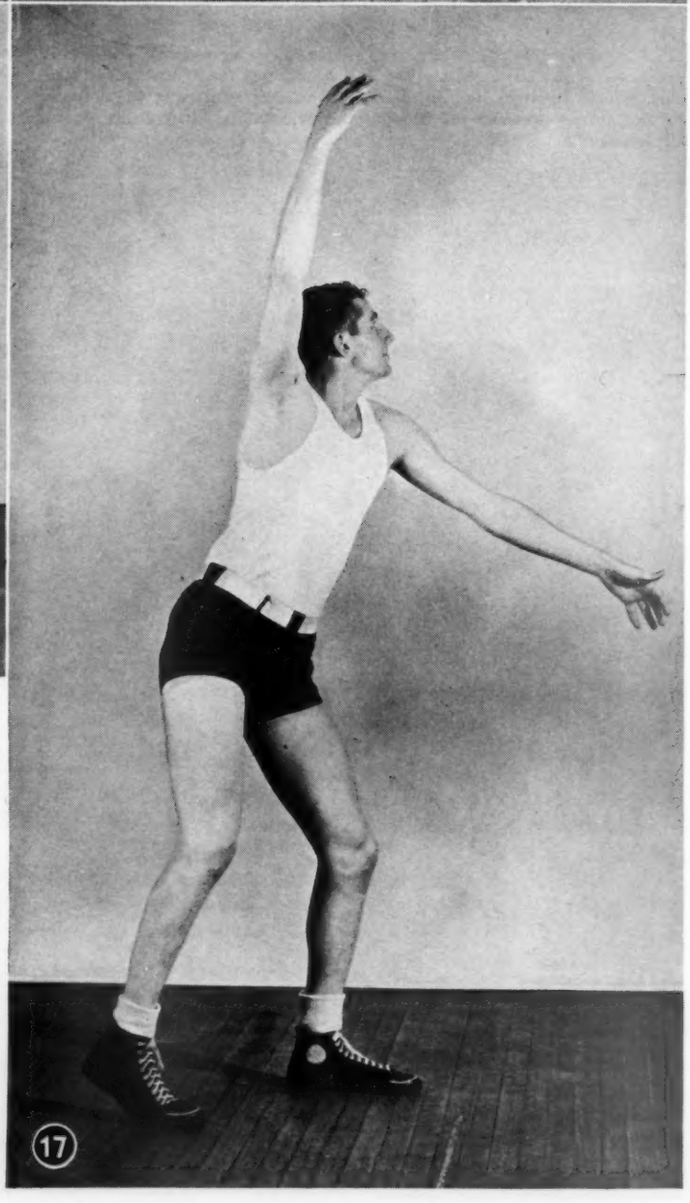


Illustration 14 shows a player in a position similar to that in Illustration 9. Note that again the fingers are well over the axis of the ball.

Illustration 15 illustrates the player beginning a hook shot instead of a pass or chest shot. Control of the ball is excellent. This would not be true if the hook shot were attempted from the positions shown in Illustration 1 and Illustration 5.

Illustration 16 pictures a later step in the hook shot. Note the excellent one-hand control.

Illustration 17 shows the hook shot follow-through. When the hands are placed on the ball well over the axis, accurate one-hand hook shooting results.

A Defense for the Figure 8 Offense

By George E. Keogan
Basketball Coach, University of Notre Dame

YOU have undoubtedly read article after article on defensive basketball. The numerous types of defense used by various coaches have been explained in detail many times. Reams have been written explaining in detail the five-man defense, the man-for-man, the five-man shifting defense and the zone defense. After one has read and digested mentally this abundance of material, one wonders how baskets can be made. I find that no matter what defense is employed, scoring still continues and no doubt will continue as long as the game is played.

Certain coaches like and employ the straight man-for-man defense, the first defense known to basketball, some employ the shifting man-for-man defense, while still others like and employ the zone defense. Every coach to his own likes and dislikes! But there is one thing very certain—no matter what type of defensive set is used, the success or failure of that defensive set depends entirely on the proper teaching and execution of guarding fundamentals. The set means nothing if the fundamentals are lacking in players supposed to carry it out.

In this article I will try to explain how to defend against a team using the two-man screen plays as the foundation of their offense. The offense made up of these plays may be called "the in, out and over," or it may be called the "figure 8 offense."

The two-man moving screen in itself is very simple. It merely means that the passer moves over and legally gets in the path of the guard of the man receiving the pass, which allows the latter to free himself for a shot or a dribble in to the basket. If a straight man-for-man defense is used against this type of attack, the defense will be doomed to failure. If a shifting man-for-man defense is used,

George E. Keogan

better success will be the result, provided the defensive men are equal physically in speed to their opponents.

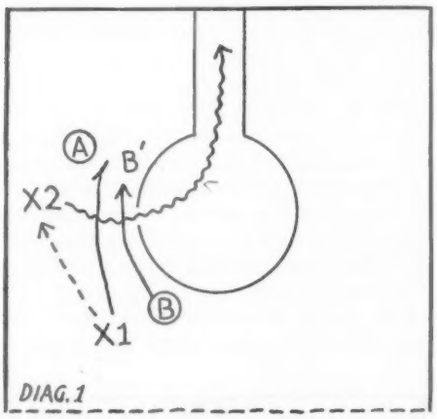
In Diagram 1, the defensive team is employing a straight man-for-man defense. X1 has the ball; B is his guard. X2 is to receive the pass; A is his guard. X1 passes to X2 and after the pass cuts toward X2. He slides his body in front of A, the guard of X2. B, who is guarding X1, follows his man to the position B′. When X1 crosses in front of X2 and gets his body between A and the ball, X2 dribbles around X1, A and B, and in to the basket. No contact must take place between A, who is guarding X2, and X1. B carries himself out of the play by staying with X1.

To defend against such an offensive maneuver, we employ the shifting man-for-man defense. This defense is disclosed in Diagram 2. X1 makes his pass to X2 and takes the path indicated to screen out A. The two guards, employing a shifting man-for-man defense, immediately sense a screen play. B follows X1 across to point B′. A, who is back of the play, yells "Shift!" B then stops and picks up X2. A steps back and stays with X1. Therefore, when X2 dribbles out of the screen, B has him guarded, and A covers X1. Both offensive men are covered. This maneuver takes much practice, but players grasp such things readily.

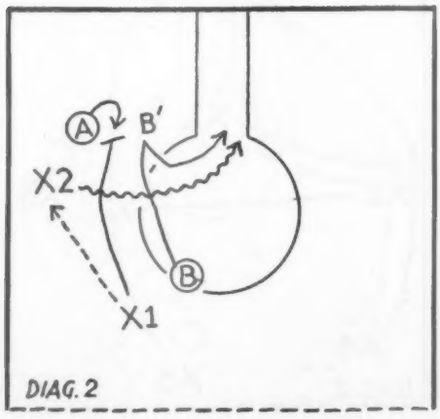
To this point, the situation has been reasonably simple to explain and simple to handle. The difficulty comes when two-man screens are used successively, necessitating rapid shifting by three or possibly four guards.

A successive two-man screen is explained in Diagram 3. X1 passes to X2 and then cuts in to screen out A, the guard of X2. A yells "Shift!" B then cuts back and picks up X2. A stays with X1. As X2 dribbles in, he is covered by B. X3, who is guarded by C, then immediately breaks from the side of the court toward X2. X2 passes to X3 and cuts across to screen C, the guard of X3. C then yells "Shift!" B slides back and picks up X3. C stays with X2. X3 tries to dribble in for a shot. If he sees it cannot be made, he passes the ball to X1, who remains on the opposite side of the court, and the same routine is repeated.

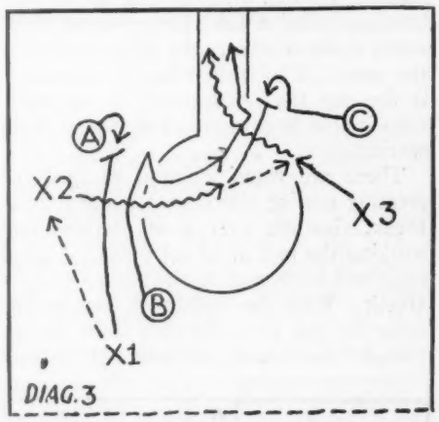
Now draw lines from X1 to X2 and from X2 to X3, then through X3′, the secondary position of X3, and back to X1. You will find these lines resemble a figure 8. Hence the name "figure 8 offen-



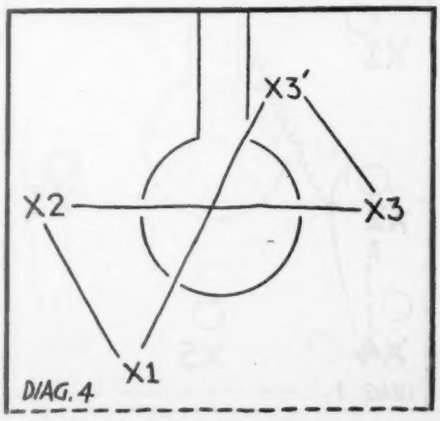
DIAG. 1



DIAG. 2



DIAG. 3



DIAG. 4

sive," which is in reality only a succession of two-man screens. (See Diagram 4.)

The repeating of these two-man screen maneuvers may eventually be successful by a guard's failure to pick up his offensive man. This would allow an offensive player a free lane to the basket and a shot.

I have tried to explain in detail how to stop the in, out and over, or the figure 8 offense by using a shifting man-for-man defense. Of course, it would be much more simple to employ a zone defense. Against this latter type of defense, screening is almost impossible.

EDITOR'S NOTE—In the November issue, Dr. H. C. Carlson explained the figure 8 offense. One of the most interesting of the annual intersectional basketball games is that between Notre Dame, coached by Mr. Keogan, and the University of Pittsburgh, coached by Dr. Carlson.

The Screen Play in Basketball

The Screen Offense

By Stuart Baller
Lincoln, Nebraska, High School

FOR a number of years, the influence of Stuart Baller has been felt in Nebraska interscholastic athletics. He has consistently turned out well coached teams, and in 1934 the Lincoln High School basketball team under his supervision won the state championship. In the final game, a hard fought contest with Crete High School, Lincoln players emerged victorious largely through making effective use of the screening offense taught by Coach Baller.

IN the 1933 book of Official Basketball Rules, on page 1, we see this statement under the heading *The Game:* "The game of Basketball is played by two teams of five men each, the ball being passed from one player to another. The purpose of each team is to score as many points as possible by tossing the ball into its own basket, and at the same time prevent the other team from securing possession of the ball or scoring."

May we emphasize for future reference the purpose of the game of basketball as interpreted here, "to score . . . . and . . . . prevent . . . . from . . . . scoring." Needless to say, the team which is more successful in this purpose will be the winner. Whether this game is played in the backyard with the barrel hoop as a goal, whether it is played in the old opera house where the lighting is poor and the floors are still slick from a dance the previous night, or whether it is played in the modern building called a field house where thousands come to cheer, the ultimate end is the same. The team which is victorious is the one that scores and at the same time is able to prevent its opponent from scoring.

There are three different methods of creating scoring situations; namely, fast-break, shooting over a set defense and working the ball in by set plays. A good team will have each method as part of its attack. With the fast-break, the guards bring the ball down the floor from the opponents' backboard, the man with the ball swinging out to the side of the court. One of the forwards runs for the safety zone along the side line, creating an opening for the guard to pass to him. The center and the other forward break. The sole purpose of all members of the team is to get the ball down the floor to their basket so that one of them may have a close-in, unmolested shot at the basket. If he gets it, then the fast-break has been a success.

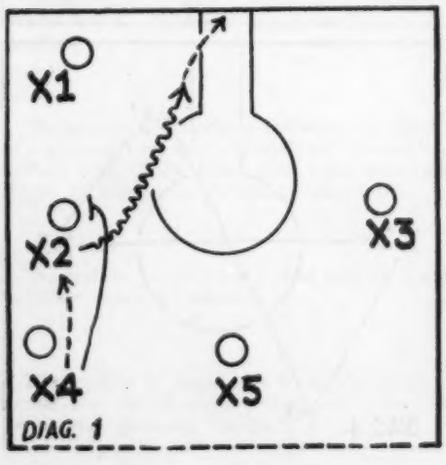
It is not possible to employ a fast-break all the time. The players then must choose between shooting long shots and working the ball in. Long shooting might be practicable if the defense has drawn back so far that it is impossible to work the ball in, and if there are on the offensive team excellent goal shooting guards supported by forwards or centers so tall that the ball may be retrieved a reasonable number of times after shooting. However, at best this play will not consistently win games, for sometimes the guards are not "hitting," and their team mates are not regaining possession. Then the crowd yells "Star!" and the coach grows prematurely old. Furthermore, let us notice that this offensive style, as well as the fast-break, violates one of the objectives and purposes of the game which is, according to our first paragraph, to "prevent the other team from securing possession of the ball." It will be admitted that a long shot successfully made gives the crowd a thrill, but the team which wants to be most successful will adopt the third and best method of offensive play; namely, working the ball into position for a close-in shot and never releasing it until that play has been effected. A good criterion for a coach to have in building his offense is that the closer a player is to the basket the greater chance he has of scoring.

Because it is good basketball to keep possession of the ball, the team should utilize every weapon in its power to bring the ball in close before shooting. There are two different styles of attack which do this. One is to outrun the defensive men with a quick cut to the basket, and the other is the method of screening.

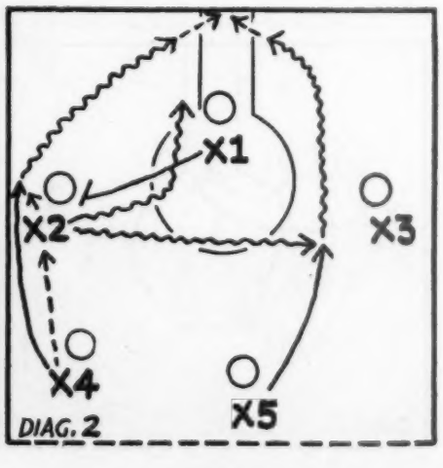
Screening may be interpreted as "legally shutting off the approach of an opponent." This we will now consider.

To understand the basis of a successful screen, one must first know the rights and privileges of the players. Each one has "squatter's rights" to any place on the floor, this position being taken without interfering or molesting an opponent. No other player has a right to this spot, and any personal contact made as a result of

Stuart Baller



DIAG. 1



DIAG. 2

his movements is a foul and should be called as such. Upon this theory, screening becomes a real part of offensive play. Further analysis of basketball play reveals the fact that those who guard the offensive man are taught always to stay between him and the basket. To do otherwise would be a mistake. To evade his guard, the offensive player goes in front of one of his own men who, we remember, has the privilege of standing on the spot he occupies. The next thing the offensive player does is to dribble the ball in front of his own team mate, or pass the ball to him and then cut in front of him, taking it back as he goes by. In other words, to go back to our definition, the offensive player has "legally shut off the approach of an opponent." When five boys have acquired the habit of always cutting in front of the team mate to whom they have passed the ball, they have started to build a team—a team that can screen, that can get away from its opponents and that will score from under the basket.

It is fundamental for a screening team to handle the ball low. The player in possession of the ball must have his feet comfortably apart. His body must be in a low crouch and the ball extended enough for the player who cuts in front of him to receive it without fear of fumbling. His low position also aids him in seeing the defensive man's feet in position behind him. In addition, it aids in preventing a held ball.

Each man in a screen offense must realize that there are three possibilities of playing the ball while it is in his possession. (1) He may pass to the team mate cutting in front of him. (2) He may fake to the team mate cutting in front of him and then, stepping back with the foot opposite his fake, he may dribble into the basket. (3) He may carry the ball out and pass it to a team mate who in turn will start another screen, or he may dribble to the side lines, there to make a stop-turn and pass to a team mate who is cutting for the basket. The center has an additional option; that is, he may fake a pass to the team mate who is cutting in front of him and then take a jump shot.

Clifford Wells

This is one of the hardest shots in basketball to guard against successfully and is part of a successful screen offense.

Screen plays may be used on any size of floor. On a small floor it is better to confine the plays to one screen. In Diagram 1 is an illustration of a simple screen which may be successful on either a large or small floor. The player who passes the ball makes the screen. A guard, X4, passes to a forward, X2. X4 follows his pass on the lane inside of X2. Upon receiving the ball, X2 delays until X4 makes the screen. X2 has his back to the man guarding him. Then he cuts toward the basket for a shot.

TO win the 1934 basketball championship of Indiana, the Logansport High School team was forced to meet and overcome highly developed screening offenses. The coach of that team, Clifford Wells, is thoroughly qualified, therefore, to write on defenses to be used against the screen. Coach Wells is well known to followers of Indiana basketball and helped to organize and was the first president of the Indiana High School Coaches Association.

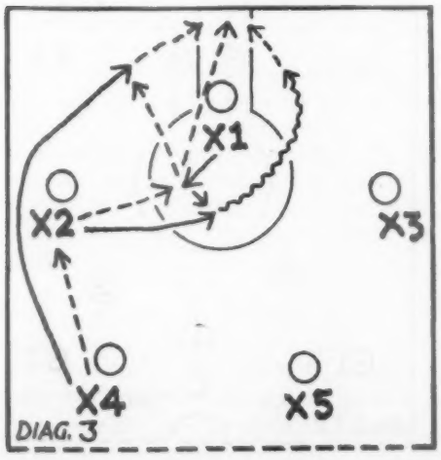
In Diagram 2 is a screen play that may be used on a small floor. With little variation it may be used on any large floor. Diagram 2 illustrates the small floor screen.

A guard, X4, passes to a forward, X2. Then X4 goes down the outside lane. X2 may give the ball to X4 as he goes by, or he may merely fake the pass. In the meantime the center, X1, has come up and screened off X2's guard. X2 then cuts for the basket. If the way to the basket is guarded, he may dribble straight across the floor, and, making a stop-turn which screens off his own guard, hand the ball to X5, who is cutting toward the basket. If the ball has to be carried back, the center, X1, takes X2's place, and X4 replaces the center. Then the play continues until a successful screen is made.

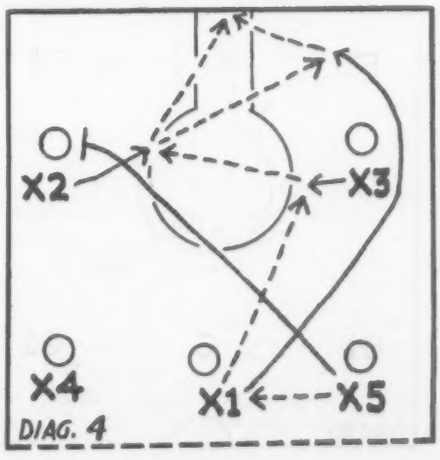
In Diagram 3 is the same play which has been changed for use on a large floor. X4 passes to X2, who immediately pivots toward the center. This act in itself screens off the defensive player guarding X4. Forward X2 passes at once to the center, X1, and then cuts in front of him. The center may pass to X4, who is coming in under the basket, or he may pass back to X2. A third option for the center is that he may take a jump shot.

A play which is a variation of a University of Kansas formation and is very effective is shown in Diagram 4. The formation provides for three men out and two in. Guard X5 passes the ball to the center, X1, and then cuts in front of him to screen off 2's guard. The center, upon receiving the ball, passes it to X3. He then cuts behind X3, and X3 passes to X2, whose guard has been screened out of the play by X5. X2, who has cut toward the center of the floor to receive the ball from X3, either shoots for the basket or passes to the center, X1, now breaking under the basket.

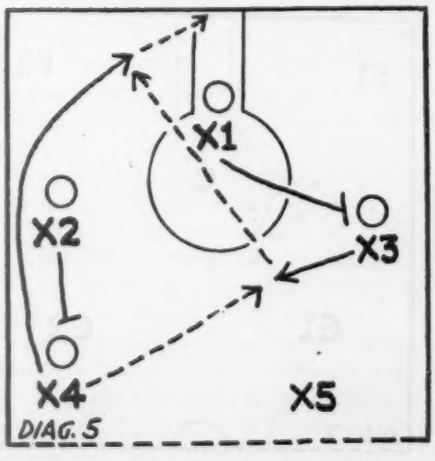
In Diagram 5 is a double screen that is very effective. X4, who has the ball, is freed from his defensive man by a screen by X2. At the same time, the center, X1, screens the defensive man guarding X3, which releases X3, who cuts toward



DIAG. 3



DIAG. 4



DIAG. 5

the center and receives the ball from X4. X4 then cuts down the outside lane and receives the pass back from X3.

Defense for the Screen

By Clifford Wells

Logansport, Indiana, High School

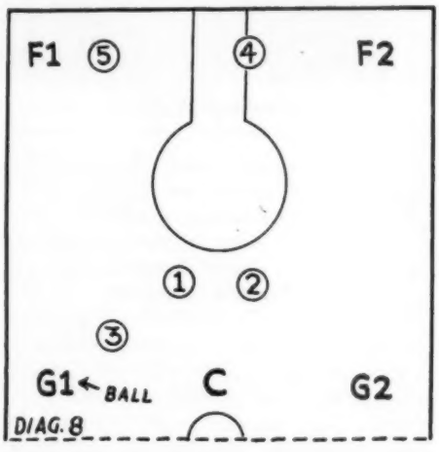
THE 1933-34 basketball season in Indiana saw the full development of the screening offense. Naturally, different methods of defense were employed to try to stop it. One type of defense, which was used by Logansport High School with success, was a combination man-for-man and sliding zone.

Regardless of the offensive set-up in the front court, whether it is as shown in Diagram 6, or as shown in Diagram 7, the defense works out according to the following explanations and diagrams.

To begin with, suppose we are playing against the Diagram 6 set-up. If G1 has the ball, then the defensive positions are played on the court as shown in Diagram 8. Defensive men Nos. 3 and 5 play man-for-man, while 4 slides under the goal and keeps his eyes on the ball and his man, F2. Nos. 1 and 2 slide back and play as in a zone formation. Now, should C move to the left side of the floor between F1 and G1, then defensive man No. 1 covers C man-for-man, and the other defensive men, 2 and 4, play the sliding zone. This is shown in Diagram 9.

Should G2 have the ball, then the particular defensive set-up is as shown in Diagram 10. Nos. 2 and 4 play strictly man-for-man, and 1, 3 and 5 play a sliding zone game. Now, should C swing to the right side of the floor, 1 plays man-for-man, and 3 covers the territory around the front free throw circle. However, if C swings over to the left side of the floor, 1 plays zone defense, except that he slides to a position on the floor so that he can play C man-for-man if it becomes necessary. This particular set-up is shown in Diagram 11.

Now should C have the ball, only 1 plays man-for-man, the other players sliding away from their men as shown in Diagram 12. In this particular set-up, it might be said that defensive men 2, 3, 4 and 5 play a loose man-for-man defense.



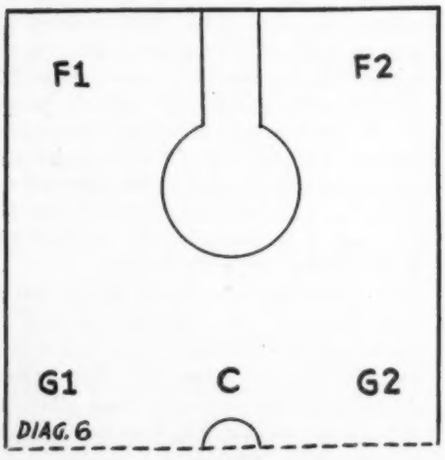
DIAG. 8

They shift into a zone position or man-for-man, depending upon which side of the floor the ball comes down. A very important fundamental is for the players to slide as the ball is passed and not over-slide and be caught too far out of position by quick passing of the opponents.

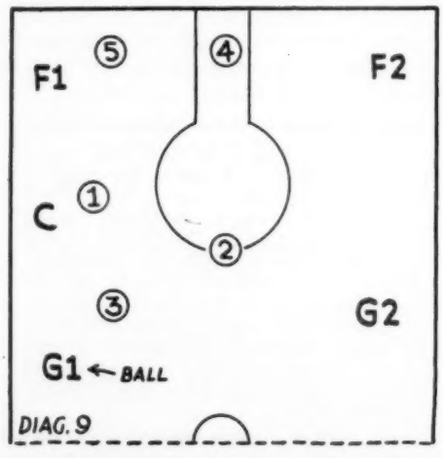
Another possible situation arises when F1 has the ball. The only man playing man-for-man in this case is defensive man 5; the others all slide back and yet are in position to play man-for-man should it become necessary. If F2 has the ball, then No. 4 defensive man plays man-for-man, and the others play a loose man-for-man and sliding zone defense, as is shown in Diagram 13.

From Diagram 13, the reader may be able to understand the shift that is made when F1 has the ball. In this case, 5 covers F1 man-for-man, while 1, 2, 3 and 4 slide back and play in the same relative positions to the ball as do 1, 2, 3 and 5 when F2 has it.

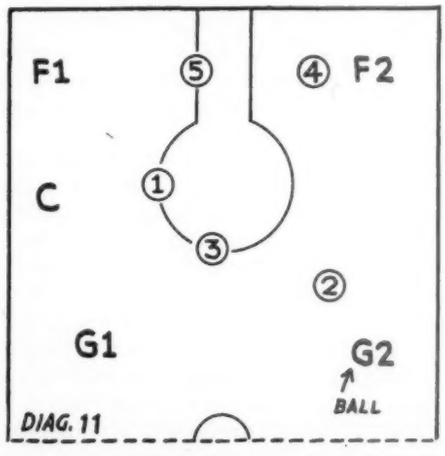
If the front court offensive set-up is as shown in Diagram 7, the pivot type of offense with screening, the positions we assume are as follows: In Diagram 14, G1 has the ball. Then defensive men 1, 3 and 5 play man-for-man, while 2 and 4 slide back into a zone position, being very careful about being in places on the floor that will allow them quickly to assume a man-for-man defense if the ball comes to their side of the floor. It will be noticed that 1 is playing C on the side the ball is



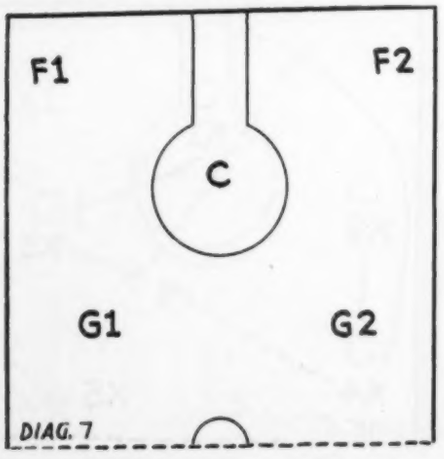
DIAG. 6



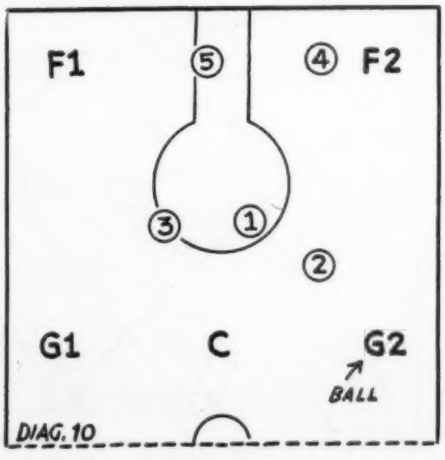
DIAG. 9



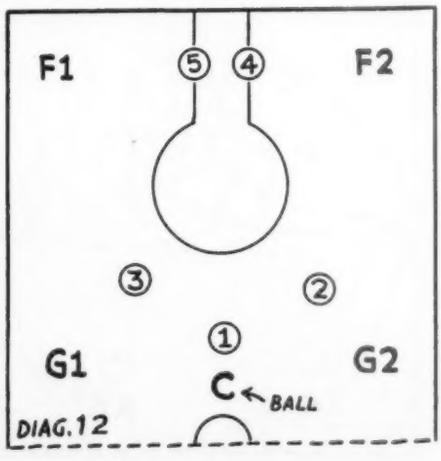
DIAG. 11



DIAG. 7



DIAG. 10

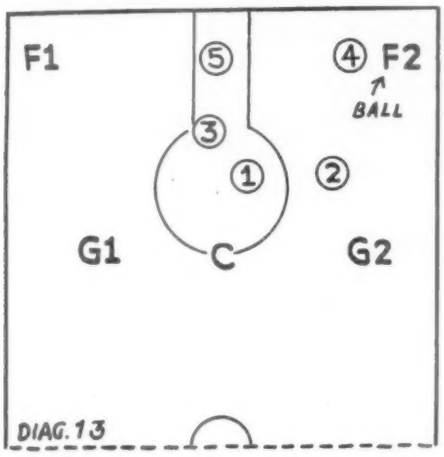


DIAG. 12

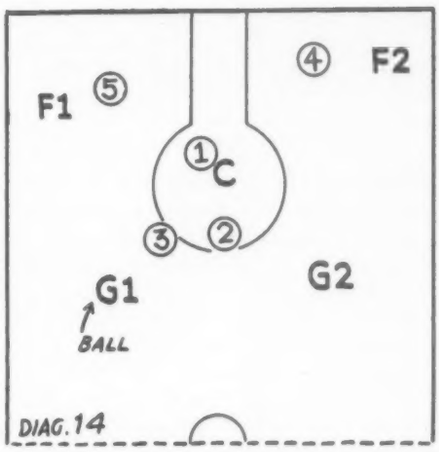
on, and 4 is in position to stop a loop or lead pass to C should he break under the goal. Also, 2 is in position to intercept a pass from G1 to C.

In case F1 receives a pass from G1, defensive man No. 5 is all set, as he is covering man-for-man. No. 3 now slides back into a zone position and tries to keep F1 from passing the ball to C. No. 1 plays between C and the goal, and 2 and 4 slide back into the mass formation around the goal. If the ball is passed out to G1 again, then the positions as shown in Diagram 14 are again taken on the floor.

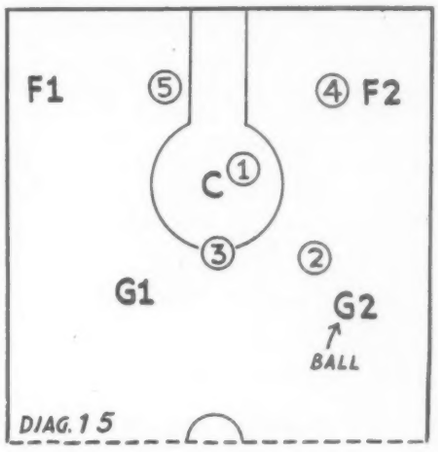
In Diagram 15, G2 has the ball. Defensive men 1, 2 and 4 play man-for-man, with 1 playing C on the side the ball is on. Nos. 3 and 5 slide into a zone position, as is shown in Diagram 15. Defensive man No. 5 plays for long passes under the goal and is a safety man there. No. 3 slides back so that he can intercept



DIAG. 13



DIAG. 14

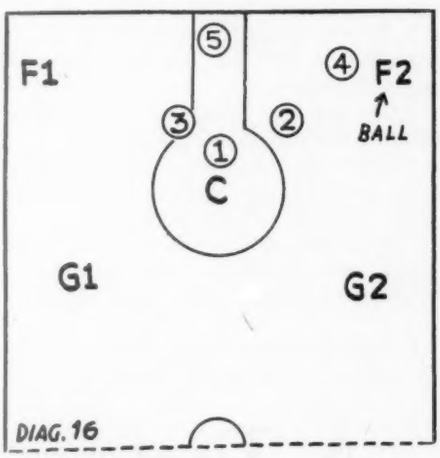


DIAG. 15

or knock down passes to C.

Suppose that F2 has the ball, as in Diagram 16. Then defensive man No. 4 plays man-for-man, while 1 plays man-for-man between the goal and his man, C. No. 5 slides in under the goal, while 2 and 3 move back into a zone or massed formation around the goal, as in Diagram 16. Should C receive a pass from any of the other four offensive players, then all five defensive men slide back in zone formation and try to make C play the ball out again; the other offensive men cannot cut through on either side of C because of the mass defense. As the ball is passed out by C, then the defensive men play as shown in previous diagrams, depending on which offensive player has the ball.

This defense is very successful for us when we are ahead in the scoring, but naturally it is less effective when we are trailing. When we are behind, we play this type of defense until the last quarter and then play a rushing man-for-man defense and try to force the play.



DIAG. 16

Care of the Leather and Wool in Athletic Equipment

By C. E. Stevens
Athletic Director, Newburgh Free Academy, Newburgh, New York

BY careful and intelligent care of equipment, the cost of operating the athletic department may be materially reduced. At this time of year, especially, after the football season is over, proper storage of equipment will mean better and more equipment for the next season.

In the following paragraphs, suggestions are given relative to the care of leather and wool, two of the most important and expensive materials in the football player's uniform.

Shoes

ALL shoes should be carefully examined when returned at the end of the season by the players. Those needing repairs should be sorted out and marked with a tag showing the amount of repairing that needs to be done. The amount to be done will vary from a small stitching job to a complete rebuilding job. (Shoes worn out completely should be discarded. In some cases it is cheaper to buy new shoes than to repair the old ones.) Whether the repair work is done locally or sent to a reclaiming company, you should write out specifications as to:

1. The grade of leather to be used for the soles and uppers.
2. The type of stitching.
3. The weight of thread.
4. Type of cleats.
5. Type of sole (straight or split shank).
6. The amount of work to be done on each pair of shoes.

With these specifications, bids for the work by several reliable shoemakers and reclaiming companies may be asked for.

The shoes that are not sent away for repair should receive careful attention before they are stored. They should be put in first class condition for distribution at the beginning of the next season.

1. Old laces should be replaced by new ones.
2. Uppers should be greased lightly with a good leather application.
3. Cleats should be removed.
4. Soles should be greased several times.
5. Oil should be put in cleat holes (on stem, if it is fastened to the shoe).

After this work has been done, the shoes should be thoroughly inspected again for breaks in the stitching. Small breaks are easily fixed, but if a shoe is given out with-

out having the breaks repaired, the result is a ruined shoe.

Before being stored, shoes should be stuffed with paper pushed well up into the toes. This helps to retain their shape. When putting shoes on shelves, arrange them according to sizes and do not pile them on top of one another, at least to any great height. To do so breaks down the counters in the back of the shoes and pushes in the toes, resulting in shoes being all out of shape when they are given out.

When shoes are issued, the players should be given instructions on how to take care of them. The following are a few directions that may be issued to the players by the athletic department, which, if followed out, will add greatly to the wear and comfort of the shoes:

1. Grease lightly, once a week, both soles and uppers. Grease will be furnished by the athletic department at your request; do not use any other kind.
2. Report tears and breaks in the shoes immediately. We will see that they are repaired at once.
3. On wet days, grease soles thoroughly before going out on the field.
4. When shoes are wet, do not put them near a fire or expose them to excessive heat. They should dry very slowly.
5. Put shoe trees in shoes as soon as you are through with them. This keeps them in shape and makes them more comfortable.
6. Change cleats around when they are worn so that even heights are opposite one another. If cleats are not the detachable type, report condition to the coach. Uneven cleats break down the counters and cause the shoes to lose their shape.

Balls

CARE should be taken not to inflate balls above the factory specifications. Excessive inflation causes too much strain on the stitching, and the ball soon goes out of shape. A pressure gauge is a good investment. Never use the air hose at an automobile service station. Use a small hand pump. Managers should deflate balls after each practice and game. This will give the balls longer life and better shape.

A light application of oil at the close of the season restores life to the leather. This should not be applied during the season, as the oil does not have time to soak into the leather and the ball will become heavy, as dirt and grit from the field adhere to it too readily. Balls should be washed at least once a week with a good leather soap. This keeps them looking nice and removes the grit and dirt from the leather.

Before being stored, balls should be completely deflated and oiled. They should be examined carefully for breaks and repaired if it is necessary.

Pads and Helmets

IT is recommended that all pads be thoroughly cleaned before they are stored away. This is important from the hygienic point of view, and it also adds life to the pads by having the grit and dirt removed. It is best to send them to a concern specializing in this work. In most cases, local dry cleaners have not the equipment to do this work well, and sometimes chemicals are used that break down the fiber of the felt.

All pads should be carefully examined for repair needs and tagged accordingly. When specifying for the replacement of padding, ask for white felt. This is far superior to gray felt, both from the point of view of protection and wear. Grey felt is made of old felt ground up and is not strong. It wears out quickly and loses its shape. Foam rubber is very popular because of its resistance to moisture and its light weight. However, it is not so durable as white felt and is much more expensive to use.

Elastic parts should be replaced yearly. This is essential if pads and helmets are to be fitted properly on the players.

If leather is to be replaced, specify the weight that should be used and the grade of leather. Only the best should be used. All breaks in stitching should be repaired.

If the budget will not allow you to have all the pads and helmets cleaned and repaired, select those that are most in need of repair and send them to a good reclaiming company. Those that are not sent away should have the following things done to them:

(Continued on page 34)

A Pictorial Lesson in Amateur Wrestling

By Hugo Otopalik
Wrestling Coach, Iowa State College

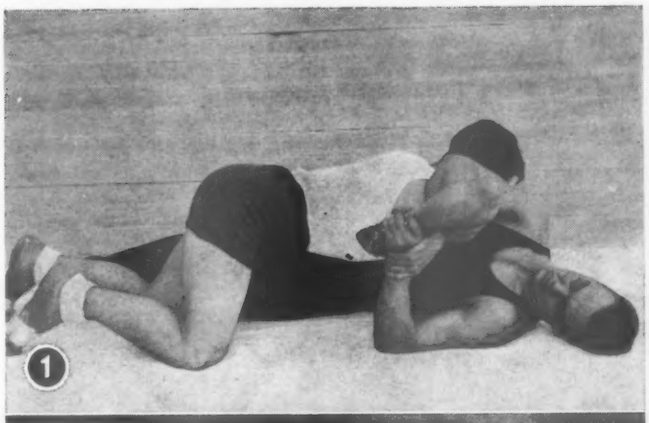
PERSONAL combative contests under intelligent and proper supervision, in my opinion, bring out characteristics and develop qualities in an individual more forcibly than group games. These characteristics and qualities, I believe, are the stronger and more desirable ones and are almost invariably carried over into actual life conditions. The contestant in a sport such as amateur wrestling, where each boy is "on his own," with no possible assistance from his team mates, must have confidence, initiative and independence, if he expects to gain his ends on the mat. And is there anyone in these times who would say these traits are not important and desirable?

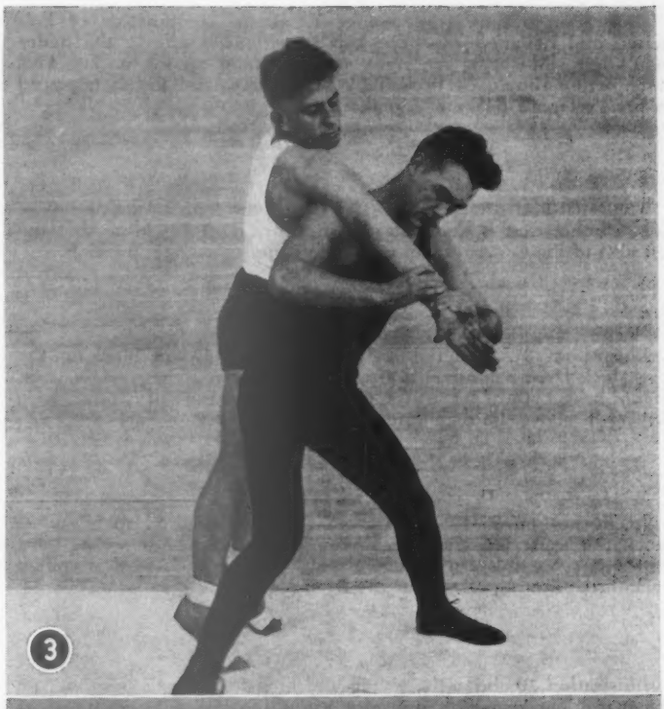
To win, or even to wage a good battle, a boy must have faith, confidence and belief in himself and in his ability. He must have the will to win spirit and the determination to carry through to the finish with all the resources at his command under the most trying of circumstances. Self-restraint, excellent physical condition, good health, poise and a strong personality are acquired under extenuating conditions, and it is by actual combat that they are made lasting through life.

There are many details right and wrong, legal and illegal, in amateur wrestling which either make or break a good competitor; details which spell victory or defeat for the boys. There are tactics that either mar or elevate the game in the eyes of spectators. Lastly, there are points that demonstrate good, clean sportsmanship, as opposed to those that bring out the other kind of sportsmanship, the win at any cost type. The idea back of this wrestling lesson is to take up just a few features of the game which show the right and legal tactics as opposed to the wrong or illegal methods. The latter are too often taught and practiced to the detriment of the contestant, the coach and the sport itself.

Working on the theory that the ancient Chinese philosopher was right when he said, "A good picture tells more than a thousand words," I submit the following photographs, which portray various maneuvers in this most ancient of sports—wrestling.

A FIRM believer in the physical and spiritual benefits of wrestling, Hugo Otopalik is one of the best and most enthusiastic coaches of amateur wrestling in the country. In 1932, he coached the championship American Olympic wrestling team. An article on wrestling holds by Mr. Otopalik was published in the December, 1933, issue of The Athletic Journal. In this article, the difference between legal and illegal holds is explained.





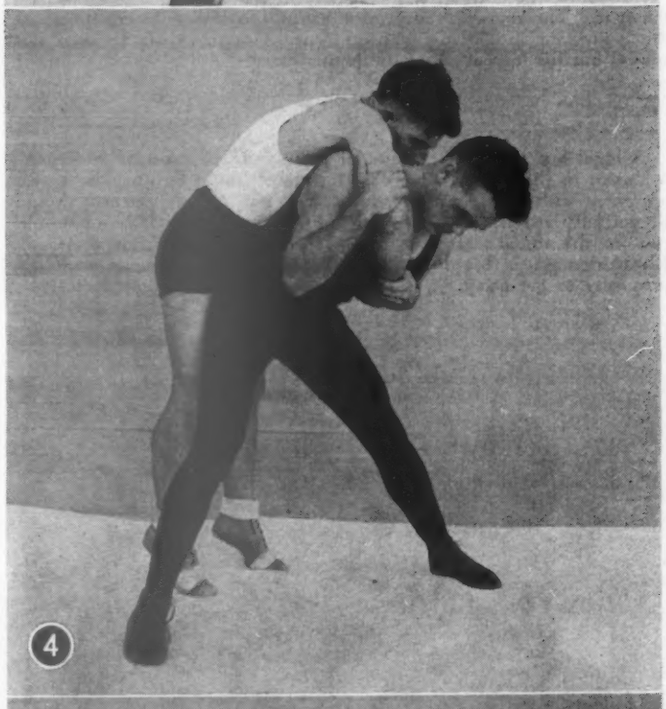


Illustration 1 shows the wrong and illegal method of coming out from underneath with the so-called wrist lock. The underneath man must not twist the upper man's elbow. He must keep the opponent's arm close to his body. The under man in this particular situation should have his body on the right side of the opponent with his own right leg grapevined over the opponent's right leg, thus preventing the top man from turning to the front and out of danger.

In Illustration 2 is demonstrated the correct and legal manner of coming out from underneath with the wrist lock. Note the position of the legs. The under man may turn in either direction to attain the same result, the top position.

In Illustration 3 is shown the wrong and illegal method of taking the first step in the flying mare. Note the position in which the front man has the palm of the hand of the back man. Rules provide that the palm must be turned downward. With the palm turned up, this hold is very dangerous to the back man.

Illustration 4 shows the legal and correct way of using the flying mare for taking a man off his feet. Note that the palm of the man in the white shirt has been turned down by the man in black, thus eliminating the dangerous element of the illegal style. To comply with the rules, the front man must be down on one knee before his opponent's body comes in contact with the mat.

The rules provide that one knee of a contestant must be on the canvas before his opponent's body may be legitimately brought to the mat in a slam. See Illustration 5. This provision is to avoid chance of injury to the back man, who is in a most dangerous position. He is helpless and has no chance to protect himself. When a man finds himself in the precarious position of the man in the white shirt shown in this illustration, he should bend his head forward, thus coming down on the back of his neck and shoulders, and not on the top of his head.

Illustration 6 shows the wrong and illegal combination of half nelson and hammerlock. The top man must not force the under man's left elbow past the right angle position on the back. This combination should be broken by the referee, and the men placed in the "referee's position" on the mat.

The legal and correct method of taking the half nelson and wrist hold combination is demonstrated in Illustration 7. Note that the left arm of the underneath man is below the right angle position.

Illustration 8 shows the wrong method to use in blocking the waist lock from behind in the standing position. The man in front should have both of his arms either inside or outside of his own legs. As shown above, he is pulling against his own leg.

In Illustration 9 is demonstrated the right method to break or block the waist lock from behind. The front man must pull his opponent's leg forward to the extent that the back man is spilled backward, allowing escape for the front man.

Illustration 10 shows the wrong and illegal "referee's position" on the mat. The man in white must have both knees outside those of the contestant in black. The underneath man, in black, must not spread out his legs or arms, as in this case.

A legal but incorrect method of taking the position of advantage is shown in Illustration 11. The top man should be up close to his opponent with his weight over him. The top man's right arm should be partially around the waist of the under man; his left hand should rest on the underneath man's left elbow. The position shown in Illustration 11 is too loose, allowing the under man an easy opportunity to get away.

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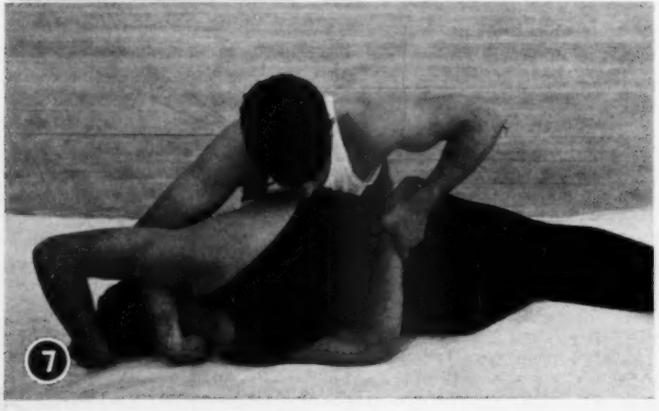
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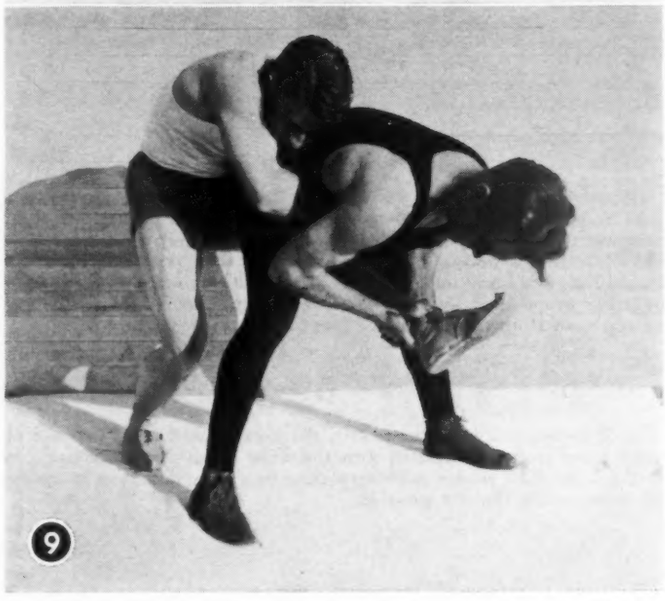
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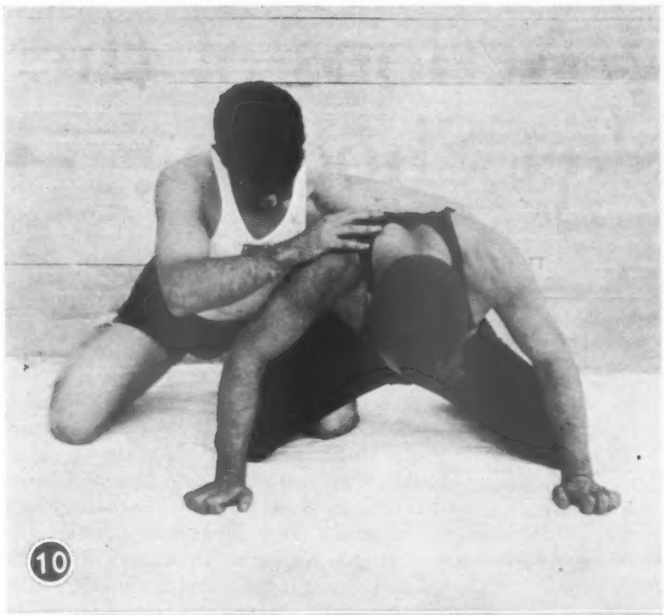
The correct and legal top position is shown in Illustration 12. Note the knees of both men, as well as the placing of their weight and the positions of their arms. This is the legal starting position on the mat, and the men hold this position till the referee calls "Wrestle!"

Illustration 13 shows a legal method of picking a man off his feet. The action would be illegal if the man in black slammed his opponent down without first bringing one knee to the mat before the opponent's body touches it. The man in black should bring either knee to the canvas and retain this same combination of half nelson and crotch hold.

The method of picking up an opponent demonstrated in Illustration 14 is legal and correct, but here again the man in black must bring either knee to the mat before his opponent's body comes in contact with the canvas. Great care should be taken in all body slams, for the defensive man is in a most dangerous position, with hardly any opportunity to protect himself and prevent injury.

Illustration 15 shows the correct method of bringing an opponent to the mat. Note that the man in black has his knee on the mat and is retaining his starting combination of holds. In this way, serious injury to the man in the white shirt is prevented.



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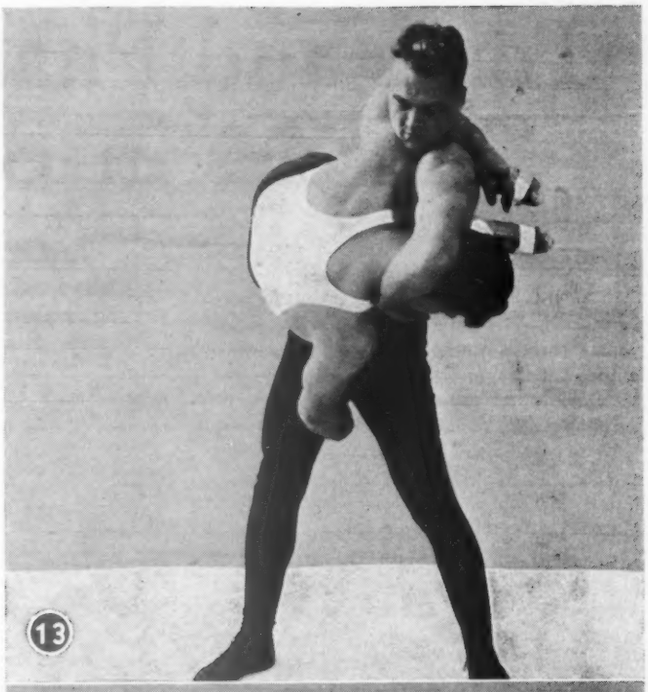

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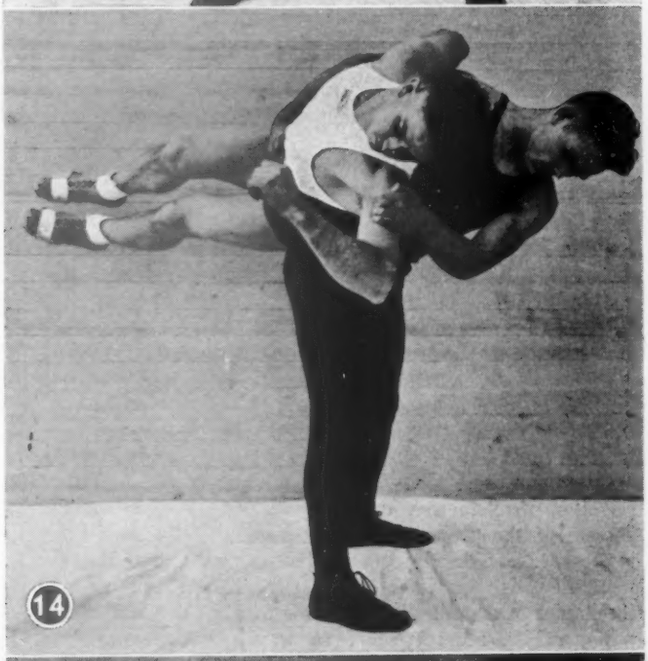

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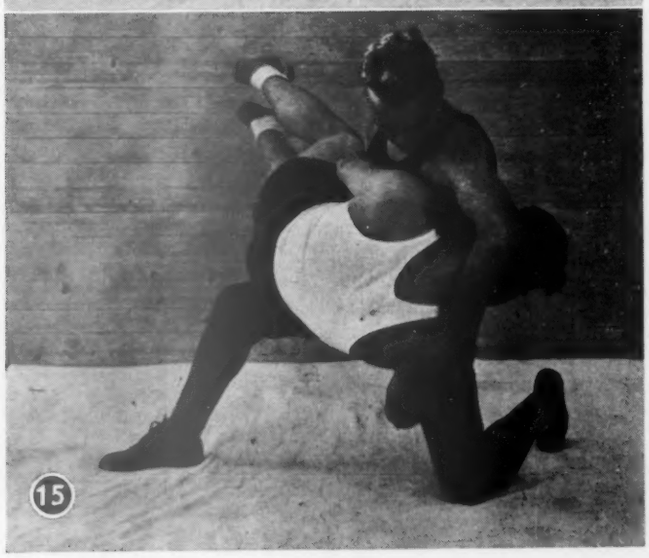


15

Tonic and Phasic Actions of the Muscles in Basket Shooting

By H. C. Carlson, M. D.
University of Pittsburgh

BASKET shooting success follows the formula of success in any other undertaking. To achieve success in basket shooting, we must want to shoot accurately, we must have self-confidence and we must work intelligently over a sufficient period of time. The intensity of our desire to shoot will help determine the amount of work and intelligence we shall expend. The generation of faith is an act in itself, but faith is also an essential supplement to desire and application. Desire and faith must be generated by the individual himself, even though work may be thrust upon him from without. A concrete goal that can be visualized frequently will be stimulating and will tend to make work a pleasure.

Basket shooting involves visual and somatic senses. The vision tells the brain the approximate distance. Only motions are represented in the brain, no muscles are represented there. The brain passes the stimulus along to the muscles, and the somatic sense tries to accomplish the task. There must be conscious practice of transmission of the visual stimuli to the brain. There must be conscious practice of the transmission of the stimuli to the muscles. There must be conscious practice of the muscles in action, in co-ordination, in reflexes, in balance and in flexibility. The muscles must act on the bones to get the leverage for projection. Practice and application of all factors involved will bring success, if the proper mental background is present. The development of the proper mentality is an issue in itself. The mechanics of shooting is the theme of this paper, which must cover in a way the action of muscles as applied to bony levers.

Muscular Action

MUSCLES never actively push. Their action is always by pull upon the bony structures. A muscle contracts and relaxes, and the activity comes from contraction. The action of the muscles is tonic or phasic in various degrees of each. Tonic is involved in position and phasic gives motion. Development comes from either action, but phasic activity in its rhythmic contraction and relaxation plays the greater role. In the alternate contraction and relaxation, there is alternate shortening and lengthening, work which may represent katabolism and anabolism. In theory at least, one may imagine blood being kept out with contraction and allowed to come in with relaxation. The muscle contracts with stimulation and then relaxes before the next stimulation. The matter of oxidation of the glycogen as well as the strengths and effects of stimulation are two broad subjects. When one muscle or set of muscles contracts there is an opposite muscle or set of muscles which relaxes. This is a happy phasic action which shows the possibility of the same development of antagonistic groups in the same action. If there is flexion of the elbow there must be a return motion by extension. There may be a different speed and strength in either direction, but primarily the work of one requires work by the antagonistic group. If the elbow with the rest of the body is called into action, as in pushing against the wall, the elbow will be kept in a fixed position by tonic action. The question of cramped muscles, hypertension and its release, pain and fatigue are big subjects. Suffice it to say of fatigue that quick movements are more quickly exhaustive than are movements for strength. The improvement of condition and the minimizing of fatigue, then, call upon activity.

The muscles of any normal individual are sufficient unto the frame of that individual. Big muscles are not an essential requisite. The projection of a basketball depends upon the length of the bony levers and their accompanying muscles plus the force of the muscles applied to the bones. Thus, projection, accuracy, quickness, deception and place of projection are factors in the mechanics of basket shooting. Interwoven with the foregoing are tonic and phasic actions, muscle co-ordination, including muscles working reflexly, body balance and flexibility. All of these must have some direction in the neuro-muscular combination. If we are going to project by extension, there is a preliminary flexion. The stopping of flexion, the starting of extension and the force of the latter are neuromuscular problems, as is the release of the ball.

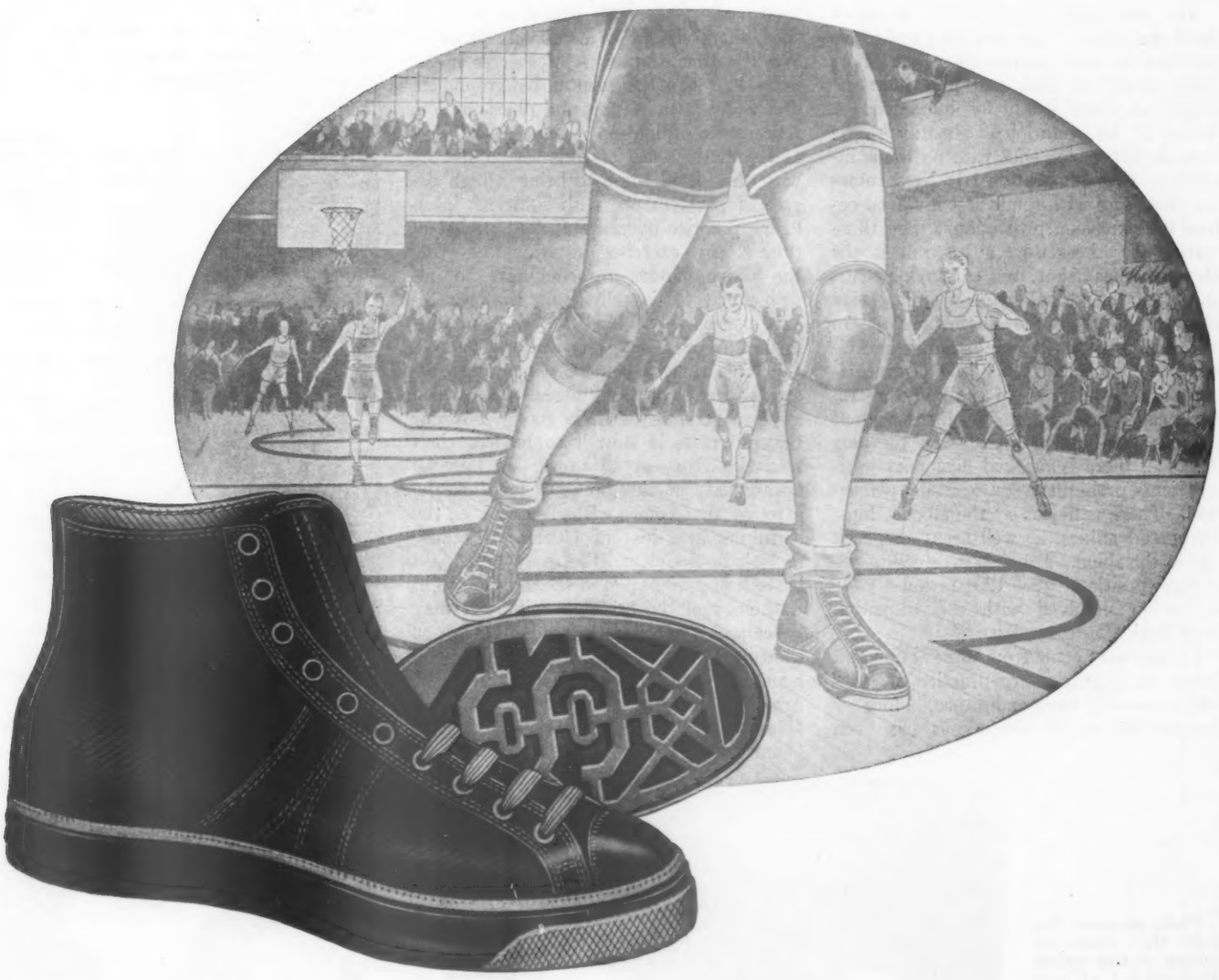
BECAUSE Dr. Carlson is a physician, as well as basketball coach, the terminology he uses in this article is to a large extent technical. For this reason, the average coach may not receive the full benefit of this discussion at one reading. However, he will find that it contains much valuable material. A second reading, and even intensive study, of this article will be amply rewarded.

Dr. H. C. Carlson

The Place of Practice

CONSCIOUS practice induces unconscious accomplishment. Proper activities may be harder to establish than improper activities, but the proper habits are efficient and invaluable. The idea is to want to score. Confidence must enter the picture so that we will proceed without the inhibition of fear. The visual sense will send its message to the brain. The brain will transmit its message to the muscles. The muscles then must co-operate habitually if the individual is to score. They must be in good condition so that fatigue will not hinder them. We have, then, the idea of practice for both the co-operation of muscles and the prevention of their fatigue. We must decide which way we shall shoot, generate confidence in the method and work along that line. If a ball or basket are not available we may still go through the motions and develop in that way. We know the actions involved and we know a muscle can mechanically only contract and expand. We know that the practice of one group must give practice to the antagonistic group of muscles. We can put stress against the group we are really going to use, and thereby give them more development. A set of exercises, involving the desired movements with proper consideration of stresses, can be evolved. It may be well to be able to meet the tonic demands before going into the phasic action. Gravity or rest exercises can be used, which may be passive in nature. After the foregoing exercises, we may consider exercise of reflexes, balance and flexibility, as well as neuromuscular activity.

Sure, floors are slippery —but what of it?



WHAT coach hasn't had occasion to groan as a slip on the floor ruined a shot—or lost the ball to the opposition?

There's no need for it! These Spalding *"Red Flash"* Speed Shoes are as sure-footed as mountain goats. Their vulcanized soles are *live, red rubber* with a tread scientifically designed to grip the floor . . . give perfect traction under speed.

The uppers are of rugged black canvas lined with white canvas . . . with padded tongues . . . canvas-reinforced arch straps and backstays . . . cushion heels . . . and air vents in the arch. So the *"Red Flash"* is not only one of the *safest,* but one of the longest-wearing, most comfortable shoes in the game. *Wholesale price, $3.25.*

Spalding's *"Black Ace"* is the class of the low-price field—a light-weight, durable shoe with a non-slip crepe rubber sole . . . cushion heel . . . arch reinforcement. A "lot of shoe" for the money. *Wholesale price, $1.80.*

Your dealer, or any Spalding store will be glad to show you these shoes—and Spalding's complete line of basketball equipment. See how much Spalding can contribute toward a better season for you and your boys.

A. G. Spalding & Bros.

BASKETBALL EQUIPMENT

The errors of basket shooting may be in direction or distance. The theory has been advanced that errors of direction are visual, and that errors of distance are somatic. If this theory is true, and it may be easily believed, then work may be done to develop both the visual and somatic senses.

The individual should learn to shoot short shots first. This caution should give the clue to later warm-ups, when short shots should be shot first and then the length of shots gradually increased. A review of the evolution of shooting shows first the lift flexion shot with no tonus involved. (See Illustration 1.) Next comes the chest shot with tonus first involved before the extension projection. (See Illustration 2.) Less used at present is the above-the-head shot, first employing tonus and then the use of extension projection from the elbows. (See Illustration 3.) On close shots the action of the hands and elbows is sufficient. When the distance is increased, other parts of the body are reflexly called into action. With the present popular two-handed breast shot for long distance, there is marked flexion at various joints preliminary to extension projection. There is flexion at the elbows, hips, knees and ankles, as well as at the neck and in the spine. Tonus is involved in the upright position. (See Illustration 4.) It is further involved with the transition from flexion to extension.

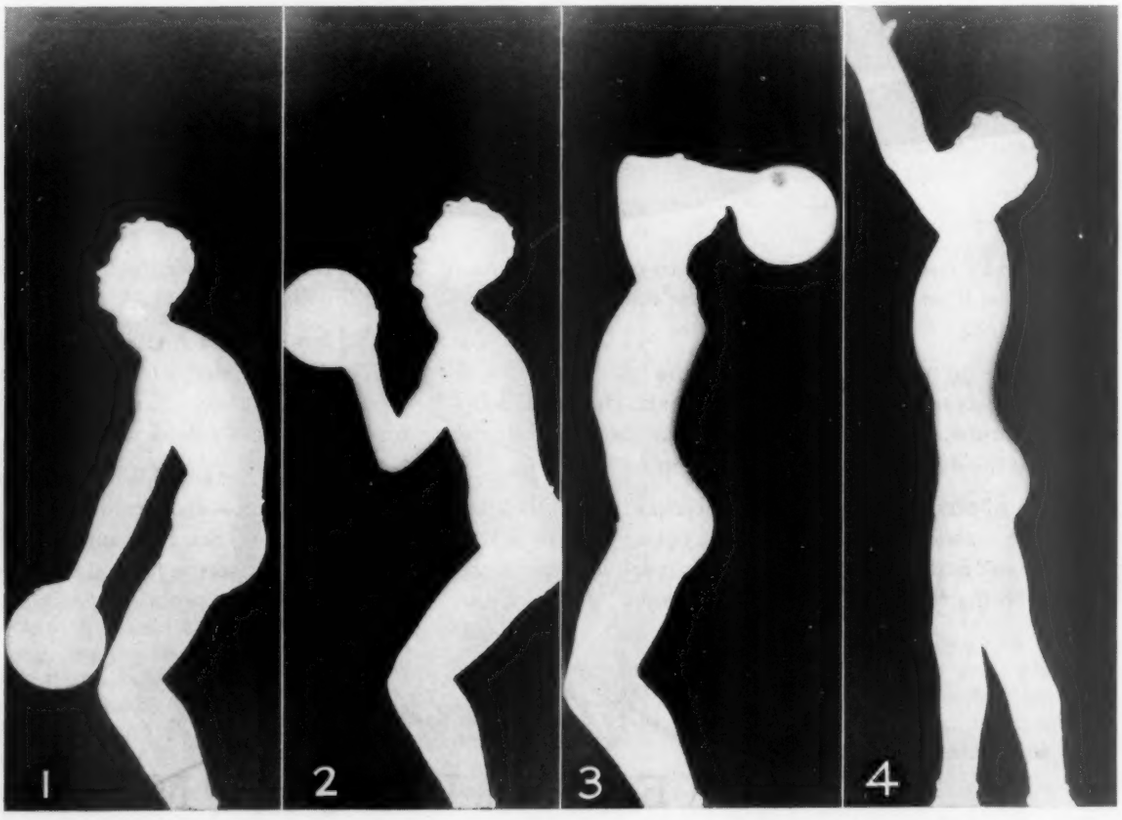
Fatigue may come from tonic action and this is an indication for practice or exercise to develop tonic endurance, before we develop the phasic action. It has been made clear that alternate contraction and relaxation mean development. Further, antagonistic muscles and groups work in harmony by alternate contraction and relaxation as exemplified by alternate flexion and extension. Exercise of phasic flexion and extension are mutually beneficial so that either method of projection should be improved. After the choice of type of shot, there should be consistent practice. Work is then the secret of success if the individual has the mental bakground of desire and faith. Tonic and phasic action, reflexes, co-ordination, balance, flexibility and somatic sense of muscles co-operate with the visual sense to bring a high degree of performance with sufficient intelligent practice over a sufficient period of time. Any exercises, anytime, covering the above factors are conducive to improvement. It is well to note that regardless of season we have waves of enthusiasm and efficiency, physical and mental. We have times when we can apply ourselves profitably, and other times when application does us little good. For our best interests it is well to have a clear mental picture at all times. It may be appropriate at this point to mention the atrophy that comes with disuse; i. e., the shrinking and loss of efficiency because of lack of activity. This may be caused by lack of stimulation of the muscles, as in pathology of the brain or spine. It may be caused by lack of muscular action, as shown by Indian religious fanatics who raise their arms above their heads until the arms become fixed in that position and subsequently become shrunken and atrophied. Perhaps it may be well to recall that in relaxation of the muscles there is rest and recuperation. Development, though, is dependent upon activity.

Mechanics of Shooting

THE following chart of three types of long two-handed shots may give us a better grasp of the mechanics. The mechanics of other shots, as well as the supporting exercises, may be worked out by the individual.

Part of Body	Lift Shot	Breast Shot	Over-the-Head Shot
Wrists	Supination	Pronation	Pronation
Elbows	Flexion	Extension	Extension
Shoulders	Back	Back	Pectorals
Neck	Extension	Extension	Flexion
Spine	Extension	Extension	Flexion
Hips	Extension	Extension	Flexion
Knees	Extension	Extension	Extension
Ankles	Extension	Extension	Extension

The above actions are representative of projecting movements. It is well to recall that there is a preliminary preparation in the antagonistic motion. This latter motion as well as the tonic action is just as important as the projection motion. The above chart shows that extension at knees and ankles is uniform in all of the shots listed. This means that there is uniform preparatory flexion in each of these shots. The bases of one exercise are then apparent; i. e., alternate flexion and extension of the ankles and knees in phasic action, with elbows held straight or in extension at the chest or above the head in tonic action. Other exercises present themselves as the activity is analyzed. These exercises should include all action,



These pictures illustrate the shots described in this article. Illustration 1 shows the lift forearm flexion shot, with no tonus involved. Illustration 2 shows the chest shot with forearm extension; tonus is involved before the extension projection. Illustration 3 shows an overhead shot with forearm extension, first employing tonus and then the use of extension projection from the elbow. Illustration 4 shows the uniformity in body extension of the final movements of all three shots.

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tonic, phasic, reflex, balance and flexibility, with and without stress.

Shooting Exercises

SUGGESTED shooting exercises for the season and out of season are herewith presented both for the work itself and as possible precursors to other possible exercises. With these exercises we get action which gives reaction. In this reaction is mental recreation of ideas, which in time may be interpreted by further action.

Tonic Exercises

I. Walk or sit—A. Have elbows flexed with hands about even with the face. B. Hold arms extended straight above the head. C. Same as B except flex the elbows.

II. The exercises of I may be repeated with flexion at the hips, knees and ankles. There is no motion, as these are tonic exercises. They will produce early fatigue if the muscles are not in good shape.

Phasic Exercises

III. Assume a position of flexion of ankles, knees, hips, spine and neck, with arms straight down and holding an imaginary ball. Now extend all the flexed joints, simultaneously raising the arms and projecting the imaginary ball toward an imaginary basket and ending up with the arms outstretched and the hands turned out in supination. Alternate these two positions rhythmically for phasic development.

IV. Assume the same position as in III, except flex the elbows and hold an imaginary ball up toward the face. Now extend all the flexed parts and project the imaginary ball toward the basket, ending up with the arms extended and the hands turned out in pronation. Alternate these positions in rhythmic motions for phasic action.

V. Hold the imaginary ball back of the head with the elbows flexed. Lean back with extension at the neck, spine and hips. There may be some flexion of the knees and ankles. Now project the imaginary ball, with each joint assuming the opposite of its original position and end up with the arms extended toward the imaginary basket and with hands in pronation. These positions should be alternated rhythmically. There are tonic, phasic, coordinative, flexibility, balance, reflex and neuromuscular exercises all involved here. At this time, visual exercises should be mentioned even in muscle activities. Eye muscle strength may be improved by horizontal, vertical and half way activities of the eyeball, as well as the conscious efforts to improve peripheral vision.

Balance

VI. Simulate the efforts of putting on socks and shoes, going through the motions of lacing a shoe while standing on the opposite foot.

VII. Stand on both feet, with the arms extended downward along the thighs. Extend the arms forward and upward, standing on each foot alternately, with the ankles in extension. This exercise may be carried farther into a jump.

Flexibility

VIII. Stand with neck, spine, hips, knees and ankles flexed, and with arms extended toward the floor. Bring arms up toward the face for backward rotation, simultaneously coming up on the toes and extending joints previously in flexion. Continue this backward rotation without stop for a while to develop flexibility, coordination, balance, reflex and tonic and phasic actions.

IX. Repeat the above except for bringing the arms up in the back, and around and down in the front to the flexed position. When the arms are in the back, the shoulders should be back with the head in marked extension.

Tension

X. Face a wall and stand with arms extended, hands about two feet from the wall. Allow the body, with the weight on the toes, to fall toward the wall. Stop the forward fall with the palm or surface of the open hand, allowing the head, spine and hips to go into extension and the elbows to go into flexion. Push the body back to the original position by extending the wrists and elbows.

Athletic Injuries—Wounds

By G. G. Deaver, M.D., B.P.E.
Department of Physical Education and Health, New York University

THERE is a tendency on the part of players and sometimes of coaches to belittle and disregard wounds received in athletic competition. It is always a grave mistake not to give immediate attention to any break in the skin.

In the studies made by Floyd Eastwood of the School of Education of New York University, in co-operation with the National Bureau of Casualty and Surety Underwriters of New York, the following statistics on wounds have been summarized. During the season of 1932 there were 39 fatalities in football reported in the newspapers. On reading the case studies, one finds that four of them, or 10 percent, were caused by wounds.[1] In 1932, 167 colleges in 41 states reported 1,836 accidents in football. Of this number there were 188 wounds causing 621 days lost, or an average of 4.3 days lost for each wound.[2]

A study of accidents and injuries in the secondary schools during 1931 shows that there were 2,370 injuries reported, and of this number 440 were wounds which were serious enough to prevent participation in activities. Only fractures and sprains occurred more often.[3]

In a study of Safety in Physical Education in Colleges by Eastwood (unpublished) for 1932 and 1933, of a total of 888 accidents reported for men, 151 were wounds. Of the 507 accidents occurring among women, wounds ranked third with 72 cases.

The regions of the body where wounds most often occur both for football and other sports are (1) face and head, (2) hands and (3) legs.

It seems that unless there are better reasons than those now given for bare legs in football and other sports, it would be well for coaches to insist that athletes wear long stockings.

A RECENT poll of Athletic Journal readers revealed the fact that one of the most popular series of articles that has appeared in this publication within the last few years was that on physical medicine as applied to athletics by Dr. G. G. Deaver and Dr. J. S. Coulter. Dr. Deaver, with the Y. M. C. A. College, Chicago, at the time he collaborated with Dr. Coulter on the above mentioned series, is now at New York University. Any article on athletic injuries by Dr. Deaver is of particular value to coaches, as this physician is thoroughly familiar with athletics as well as medicine.

Wounds and Their Classification

WOUNDS are injuries to the skin with more or less destruction of the superficial tissue; they are "breaks in the skin," being usually classified under seven headings:

1. *Abrasions,* "mat burns" or "strawberries" are superficial wounds in which the top layer of the skin is scraped off. They most commonly occur in the thigh from sliding on mats or on the ground.

2. *Incised* wounds, or straight cuts, are generally caused by sharp-edged instruments.

3. *Lacerated* wounds are tears in the skin and have uneven, ragged edges. They are usually caused by nails, glass, hooks and the like.

4. *Punctured* wounds are caused by

[1] Eastwood, Floyd R., *Case Studies of Football Fatalities.*
[2] Eastwood, Floyd R., *Study of Accidents in Intercollegiate Football, 1932.*
[3] Lloyd, Frank S., *Safety in Physical Education in Secondary Schools,* National Bureau of Casualty and Surety Underwriters, New York, 1931.

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pins, splinters, nails or stab wounds. They have a narrow opening in the skin which extends into the underlying tissue.

5. *Infected* wounds are usually caused by improper care of one of the other types.

6. *Bruised* wounds result from blunt instruments which break the skin and damage the underlying tissues. The external bleeding is usually slight but the internal bleeding may be profuse.

7. *Poisoned* wounds are usually punctured wounds due to bites of insects, snakes, dogs or other animals.

The wounds which usually occur in athletic competition fall under the first six headings, and it is in their prevention and treatment we are most interested.

Healing of Wounds

IN order to understand the reasons for the treatments outlined, it is necessary to discuss how wounds heal. Wounds heal either by primary or secondary union. Wounds which heal by primary union have little or no scar and need little or no attention after the third or fourth day, provided (1) That the wound is immediately dressed and the edges are drawn together and held in place by adhesive tape or by clamps; (2) That proper protection and rest are given in order that no further injury or secondary bleeding occurs.

Wounds which heal by secondary union do so by forming a scar tissue. Healing by this method occurs if (1) The edges of the wound cannot be brought together and held in that position; (2) There is a great amount of bruised tissue about the wound; (3) The dressing is removed too often and the edges of the wound disturbed; (4) Secondary hemorrhage forces the edges apart; (5) Infection occurs.

The healing of wounds may be delayed by various conditions, chief of which is infection due to the entrance of bacteria. The degree of inflammation depends on the virulence of the bacteria and the resistance of the individual. When an athlete's wound becomes infected and fails to respond to treatment, one may assume that the bacteria is of a virulent type or that the phagocytes in the athlete's blood are too weak to combat the bacteria; that is, the athlete's resistance is low. Athletes who have gone "stale" or are overtrained have a low resistance and are, therefore, more subject to infections and boils. Often this is the first sign of "staleness."

General Treatment

AS soon as a person receives a wound, the following general principles of treatment are recommended:

1. Control any profuse arterial bleeding.

2. Treat for shock if the wound is severe or if there are any signs of paleness, cold, clammy sweat or dizziness.

3. Render the wound sterile if possible. To do this, the following is the order of

procedure: (a) Have the operator cleanse his hands thoroughly with soap and water and an antiseptic solution such as 70 per cent alcohol. (b) Cleanse the injured part with clean water or, better still, with soap and water. (c) Apply an antiseptic. (d) Cover the part with a sterile dressing and hold the dressing in place with adhesive tape or gauze bandage.

There are two points in the treatment outlined which need further elaboration. They are antiseptic and mechanical cleansing. With the discovery that most infections are due to bacteria, there has grown up the principle of asepsis, whereby the growth of bacteria is discouraged and particular attention is given to cleanliness and a condition negative to germ growth. Antiseptic substances under various names are used in the treatment of wounds, and it is important that some of the scientific data concerning them be known.

Antiseptics

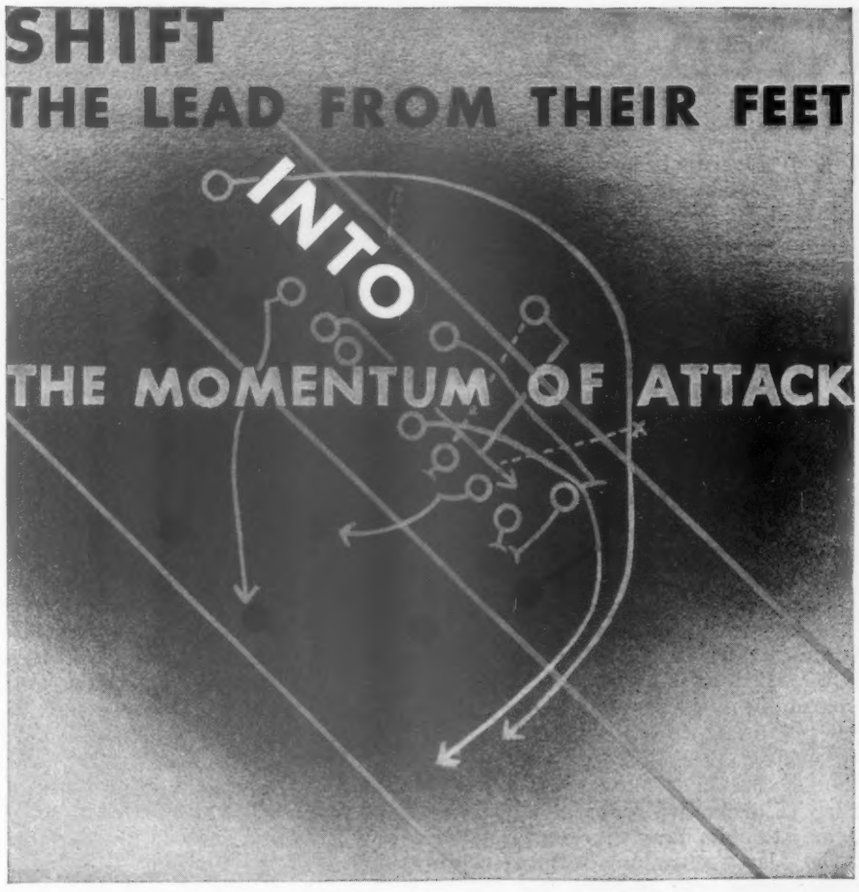
THE criteria by which an antiseptic is judged are high germicidal power, stability, homogeneity, solubility, property of being non-toxic and non-irritating to cell tissue, power of penetration, cheapness and cleansing power. In making comparative estimates of antiseptics, all these factors must be considered. Thus, one antiseptic may be good for one type of wound but may be irritating to another type. Simmons [4] found the bactericidal action of tincture of iodine U. S. P. to be far superior to any of the mercurochrome solutions used. Kelser and Mohri [5] came to similar conclusions concerning these two antiseptics, but Von Ottenger [6] states the absence of irritation of mercurochrome is a distinct advantage, especially with open wounds and for prolonged treatment, but its limitations should always be kept in mind. Both these solutions are accepted by the American Medical Association and are valuable antiseptics. Each has its own specific use in the treatment of wounds.

"Alcohol has long been known and used as a disinfecting agent. It is most effective in concentrations of approximately 70 per cent, at which strength bacteria are killed almost immediately. As the concentration decreases, the time required to kill becomes longer, being over an hour for a 20 per cent solution. On the other hand, if the concentration is higher than 70 per cent the killing time is again lengthened and *absolute alcohol is almost without killing power.*" [7]

"Listerine is a proprietary name for a

[4] Simmons, J. S., *Journal of American Medical Association*, Vol. 91, No. 10, pages 704 to 708.
[5] Kelser and Mohri, *Journal of American Vet. Medical Association*, Vol. LXXX, N.S., 33, No. 1, January, 1932, pages 87-95.
[6] Von Ottenger, et al., *Journal American Medical Association*, July, 1932, page 134.
[7] Emerson, Haven, *Alcohol and Man*, The Macmillan Company, New York, 1932, page 33.

(Continued on page 36)



Whether in football or basketball, it's Speed and Mobility that count. The defending team in today's game can't prevent a score standing back on its heels—it has to get into the scrimmage hard and fast and break up the plays before they have a chance to form. And the only advantage the attacking team has, is the opportunity of getting into action first, of swiftly swinging a corps of moving men into an area its opponents have left momentarily undefended.

All of this calls for *footwork* as well as brainwork. And for footwork, today's athletics demand a shoe that is strong (for safety), light and supple (for speed, and quick feints) and soft and pliable for foot health and foot comfort.

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Keep Our Swimmers in the Swim

By Robert W. Brenner

WILL there be no end to the mark smashing in swimming competition? For a decade now, every aquatic meet of national importance has produced a new swimming star splashing through the waves to the headlines. It seems that every time Weissmuller, Kojac, Crabbe, Al Schwartz and, lately, Jack Medica took their lightning starts at the report of the gun, they were off to swim their particular distance faster than it had ever been negotiated before.

But great as the improvement in records has been, it is not entirely satisfactory. It is not what it could be if we judge by the results of international competition.

Americans have always been confident of their success in Olympic Games, especially in swimming where there were no Nurmis or other outstanding foreign stars to fear. Perhaps this is what made the results of the last Olympiad hurt all the more. We had a team composed of our top-notchers. They had beaten many existing marks. But along came a small group of diminutive Japanese who were literally to swim away with head honors!

The Japanese representatives were young; some only fourteen and fifteen years old. They were slight physical specimens compared with our champions. Torao Takemura is now but twenty years old, 5 feet 3¾ inches tall and weighs 139 pounds. Yazuji Miyazaki is only nineteen years old, 5 feet 4¼ inches in height and weighs 139 pounds. But the Japanese were trained! Not only were they in condition but they were fortified by an exceedingly intelligent reconstruction of our own crawl stroke and a knowledge of conserving their energy for the longer grueling races. As Mr. Ralph Summeril, an official at the Olympic Games, has said:

AS a member of the swimming squad of Washington University, St. Louis, Missouri, from 1927 to 1930, the author of this article specialized in the breaststroke. The medley relay team of which he was a member set a national record. In his senior year, he was captain of his team, which, during all three years of his intercollegiate competition, won the Missouri Valley championship. Although this is his first appearance in The Athletic Journal, Mr. Brenner is the author of several articles on swimming in other publications.

"The Japanese have something the Americans lack. It is a stroke that conserves their muscle power to the best advantage. The application of this stroke, difficult to explain without illustration, brings into use more and stronger muscles than does the American stroke. It can also be shortened by a tiring swimmer in a way that does not affect his form. So many of the exhausted American swimmers lose their form badly."

This explains one advantage held by the Japanese two years ago. Still another is explained by Mr. John Wray of the St. Louis *Post-Dispatch*, who has tabulated the Japanese timing of a distance race. Of this he says:

"When Kitamura won the 1500-meter race, he swam the first 100 meters in 1:16, the next twelve centuries in approximately 1:17 each, the fourteenth hundred in 1:14 and the last century in 1:11. He broke the record.

"In this country our swimmers set no thought about the managed pace, but are intent on beating their man. As a result, they frequently are exhausted by high speed spurts which react unfavorably at the finish."

Thus, the demonstrated superiority of the Japanese in the last Olympiad would seem to be a result of better training of their athletes—better coaching in stroke and in the analysis of the race. Apparently, that is where we fell down. Our material is of sufficiently high caliber. The constant succession of national record breakers indicates that our swimmers are better than ever before; in fact, some have recently lowered even world marks.

The great majority of high schools, equipped with no tank or having none immediately available, do not sponsor swimming. Teams from most of the others are poorly coached—usually by some instructor having no technical knowledge of or training in swimming.

A case of swimming conditions, humorous if it were not so pathetic, is told by Earl Jansen of the University of Illinois, a well known Western Conference diver. This past summer Jansen was asked to be a judge of diving at a swimming meet held just outside of St. Louis. The contestants were thoroughly unorthodox, but the regulation swimming events were run off as speedily as a 1:14 100-yard and a 7:48 440-yard event would permit. Then came the usual *pièce de résistance* of the meet—the diving events. Jansen was given the individual lists of dives selected by the divers. We can imagine his amazement when he saw such dives listed as the "Vic-

This view of Takemura (above) illustrates the almost perfect relaxation developed by the Japanese in their crawl stroke. Takemura is bringing his arm back with the elbow high. There is no effort borne by the forearm or upper biceps. This allows for the quick recovery necessary to secure the position shown by Miyazaki (right).

Miyazaki (below) led the field in the 100-meter swim in the last Olympiad. His right hand, shown extended under water, illustrates an important phase of the Japanese stroke. This arm will stay in front, serving as a support for the body, until the other is about to enter the water to take its place.

tory Dive," "Statue of Liberty," and the "Ham and Egg." Jansen confessed that, in spite of his years of competition which included the Intercollegiate Meets, he had never heard of those. They turned out to be of the "standing-sitting-standing" dive variety.

This is of course an extreme case. But it is a fact that there are few satisfactory training grounds for future champion swimming material. Outside of a few athletic clubs and Y.M.C.A. organizations, there is no opportunity for an ambitious swimmer to gain the finer technique in the water until he reaches a university.

Japan and Italy have seen the value of swimming. They and a few other nations have found it an ideal mass exercise—one that is self-sufficient and not harmful to the heart or other vital organs. They have made a knowledge of swimming as universal as the elementary subjects of education. This is not a program designed to produce international champions, but that result must follow. The more people who take up swimming, the greater will be the number from whom record breakers may be chosen. And this is not the only factor. Where so many individuals of the population are given instruction, there is great emphasis placed upon the competency of that instruction and the constant training of coaches to keep them abreast of new developments in swimming.

Competency of instruction is something sadly needed even among our university coaches. We have some excellent coaches who really know their swimming. We see them producing winners year after year. But, considering the colleges of the country as a whole, they are in the minority. Think of the variety of training methods now in use. One coach has his dash swimmers working on 880's; another restricts them to 100 yards at a stretch. One coach prescribes a meal of boiled egg and toast before a swim; another allows, or demands, beefsteak, baked potatoes, vegetables and coffee. There is no excuse for such a variance in training ideas. Some one must be right! The coach who is wrong is perhaps doing his best according to his own conception of swimming training, but he is doing wrong to the swimmers subjected to his charge. More than that, he is possibly depriving the United States of a competitor who could reclaim for her the prestige that once was hers.

Olympic swimming championships, in themselves, mean little. It matters little that a Japanese can swim a certain distance a few seconds faster than our swimmers. But superiority in international competition indicates a great deal. It shows the winner is on the right track—using available material to the best advantage. If we are going to have competition in swimming, let us make an earnest effort to win.

This means taking advantage of all new developments in swimming technique and

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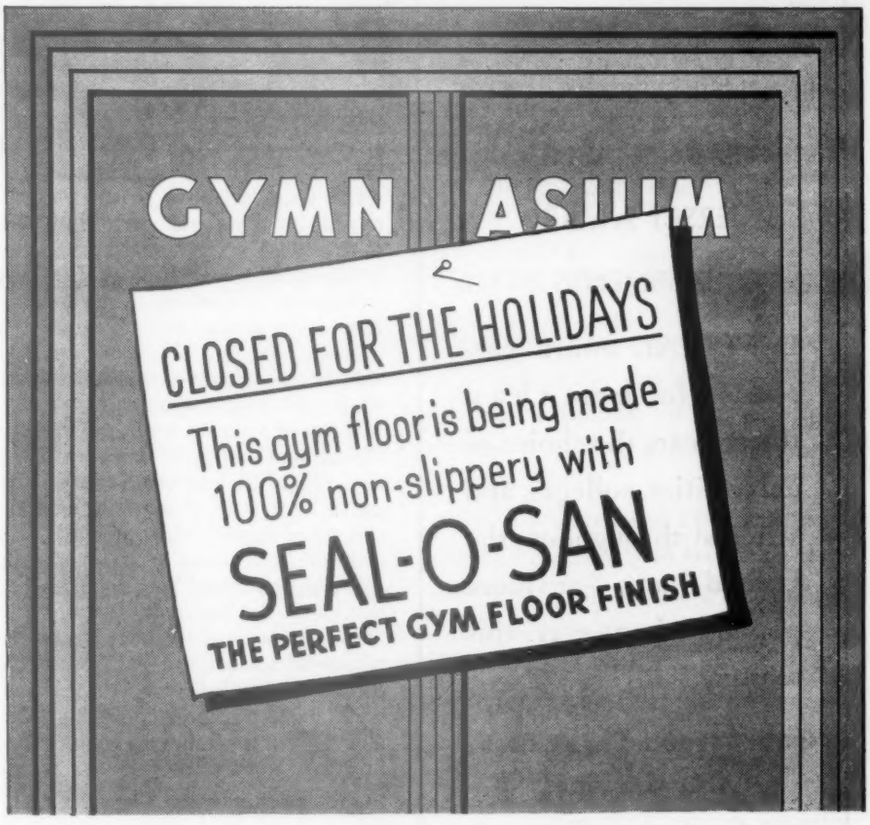
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training methods, and disseminating this knowledge so that all may benefit by it.

The annual Intercollegiate Swimming Meet always offers an opportunity to study swimming methods in practice in other parts of the country. But some more complete and speedy system of comparing notes is necessary. The number of people privileged to witness one of these meets is limited, and too frequently they are so busy with their own interests and possibilities that they do not see much else.

The writer remembers when Moles of Princeton startled the assemblage at the 1929 Intercollegiates with a record smashing 2:35 in the 200-yard breast stroke. The former record had hovered around 2:40 for years until Moles, employing the then new under-water swimming to some extent, an innovation in the breaststroke, led a fast field by five or six seconds. Now—five years later—we are first seeing this record breaking aid come into general practice. The use of the under-water stroke should have been explained to all swimmers everywhere long before this. New developments in stroke and style, at present, can only be picked up by individuals through the exercise of the utmost effort and observation.

We need what we might call an Olympic Swimming Committee which will be active all through the four year interval between games, rather than for four months; an alliance of coaches who are in a position to learn of all advances in the sport and who will conscientiously and intelligently pass this knowledge on to others.

In international swimming competition, we are up against a united front in Japan. Swimmers of that country are from the first taught the most efficient stroke and all are given the same opportunity to benefit by the latest developments. We should do the same. Most of our coaches would gladly scrap their own obsolete training methods in favor of a system recommended by a prominent body of experts who had given the matter careful study. Many university conference organizations form the nucleus around which a national board of swimming research might be built.

The material gathered could be spread throughout the country by several means to insure a clear understanding of new developments in swimming by every interested coach and swimmer. Exhibitions by our more advanced swimmers, accompanied by illuminating lectures explaining stroke and racing technique, would be of great value in spreading the gospel of modern speed swimming. These would give an opportunity for all to see how to do it and to hear why to do it. Books, pamphlets and motion pictures could supplement the personal crusade. Some plan of this sort, thoroughly worked out, would without a doubt do much to keep all coaches informed up to the latest minute.

The only reason Japan beat our swimmers in the last Olympiad was that her swimmers were better trained, both as to swimming stroke and as to timing of races. That margin of good coaching resulted in a clear cut superiority over our physically larger representatives. We have the potential swimming champions, but, as Gray has written, "Full many a flower is born to blush unseen." Let us treat all the seeds the same—give them all the benefit of the latest and most efficient treatment. Then we shall grow more winners!

Informal Review of Intercollegiate Football—1934

(Continued from page 9)

always be used to keep the ball in the opponent's territory.

The rule permitting one pass to be grounded in the end zone without the penalty of a touchback helped several teams to score, and, in my estimation, was the best change regarding the forward pass that has been made in the rules for several years.

University of Utah

By Ike J. Armstrong
Head Football Coach

THE size of our squad was practically the same as in former years. There was as much enthusiasm over football as ever in the student body. Attendance and gate receipts in this section appear to have been about the same this season as in former years.

The increase in forward passing and open play this year was noticeable. More lateral passes were used.

Care of the Leather and Wool in Athletic Equipment

(Continued from page 20)

1. Old laces replaced by new ones.
2. All leather oiled or greased lightly.
3. Elastic parts replaced.

If only minor repairs are necessary, send them to your local shoemaker.

When storing pads and helmets, pile them so that they assume the shape they take when worn. This keeps them in shape and prevents the leather parts from warping. A moth preventive should be sprinkled on each pair of pads to keep the moths out. Felt has heavy wool content which is food for moths.

Woolen Goods

WOOLEN goods should be packed and sent to the cleaners immediately after being turned in by the players. Dirty woolens are the most liked food of moths, and no chances should be taken. This makes it essential that they be

cleaned before they are stored away. Cleaning is also necessary from the standpoint of hygiene. Many contagious skin diseases are transmitted from one person to another by uncleaned garments, particularly jerseys. You will find that frequent cleanings add to the life of the garments. Grit and dirt grind the woolen fibers, causing them to break.

Woolens are very hard to clean and great care must be taken in cleaning them. Using water by inexperienced users is very dangerous. If the water is the least bit too hot, shrinking results. The temperature should not exceed 110° F. Soaps containing destructive chemicals should not be used as they destroy the fibers. For this reason it seems advisable to send all woolens to cleaners specializing in this work. The advantage of the reclaiming companies lies in their equipment for repairing. If the work is sent to your local cleaner you should specify the repair work that is to be done and how you want it done. The local situation in regard to cleaners and the condition of the athletic budgets will have to decide your action. The fact that the life of the equipment is dependent upon the way it is repaired and cleaned makes it of vital importance that this work be done by someone knowing how to do it well.

When asking for bids on this work, it should be specified that all garments are to be repaired. This work must be done by an experienced tailor with material matching the colors of the garments. When the garments are returned they should be carefully inspected and counted.

Cleaners should be informed to put moth preventive in all garments as soon as they are cleaned and repaired. This is an insurance against moths getting in before the equipment is stored away in the cabinets. It also saves the athletic director the trouble of doing this job.

When equipment is handed out to the boys, they should be given the following instructions:

1. Jerseys and stockings should be cleaned at least once a week. Wash woolens in luke warm water, 110° F. Rinse in water of the same temperature.

2. In washing jerseys and socks, do not rub them; dip them in and out of luke warm water containing a good quality soap flakes. After washing jerseys and socks, lay them on a paper to dry, stretching them out to their original size and shape.

3. All holes must be repaired as soon as they appear.

4. Practice jerseys should be washed at least twice a week.

5. Cleanliness and neatness of the football equipment for games is essential. Only those players appearing under these conditions will be allowed to play.

When woolen goods are returned from the cleaners, they should be placed in moth proof cabinets. Additional moth

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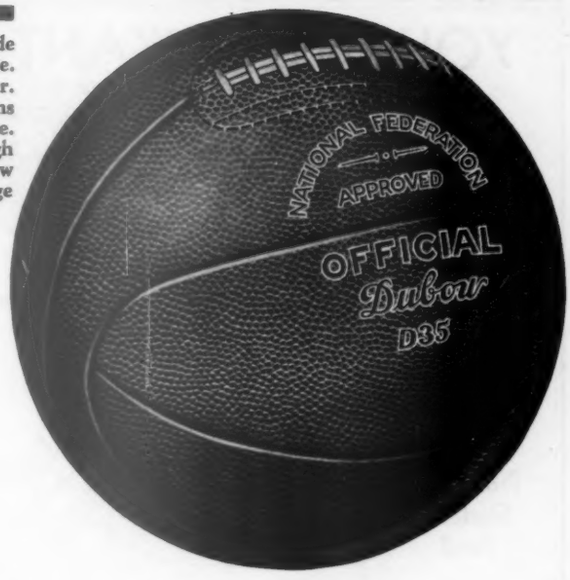

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flakes should be spread on the shelves and between all garments. Arrange all equipment on shelves according to sizes. Inasmuch as jerseys are the garments most liked by the boys, it is well to remove all temptation by locking the jerseys securely in cabinets.

Athletic Injuries—Wounds

(Continued from page 31)

solution of a well known substance which has little bacteriological merit." "Furthermore, the bacteriologic experiments indicate that listerine will do little more than a weak hydro-alcoholic solution of thymol. On dilution with four parts of water, listerine shows no bacteriologic action, according to the reports here made." [8]

My purpose in discussing antiseptics is to bring to your attention the fact that simply to apply any antiseptic to a wound or a scab is not a sufficient precaution to prevent infection. In treating wounds, it must be remembered that mechanical cleansing of wounds with soap and warm water is more important, in the majority of cases, than applying an antiseptic. Walker [9] in his study showed that all the six soaps he studied possess marked germicidal action for most of the common organisms. It was also shown that the activity of the soap was doubled by using hot water.

Carefully rubbing the wound with a lather from yellow soap mechanically clears away any foreign substances in the wound and it is germicidal in action. Having done this and then rinsed the wound with a clear water, the application of an antiseptic will doubly protect the wound from infection.

There is no antiseptic which the writer knows which will fulfill all the requirements mentioned above. Until the perfect antiseptic is discovered, let us cleanse the wound by washing it thoroughly with soap and water and put our faith in the antiseptics recommended by the American Medical Association. Iodine and mercurochrome are on the list of recommended antiseptics.

For a complete summary of the scientific findings on popular antiseptics, the following book is recommended: *100,000,000 Guinea Pigs*, by Kallet and Schlink, The Vanguard Press, 1933.

Special Treatment

ABRASIONS. If cinders or dirt adhere to the wound, wash off the area with a soap lather or boric acid solution. It is not advisable to use an antiseptic such as iodine, as it is painful. Dress the part with a sterile dressing.

INCISED WOUNDS. Allow the wound to bleed a short time as this tends to wash out any foreign substances. Cleanse with

[8] *Journal of American Medical Association*, April 18, 1931, page 1306.
[9] Walker, J. E., *Journal of American Medical Association*, July 4, 1931, page 19.

soap lather and apply an antiseptic. Use strips of adhesive tape, if the wound is gaping, to approximate the edges. Apply the tape at a right angle to the wound, leaving open spaces between for drainage, and bandage as described. Have the patient observe the rules listed under healing by primary union.

If an artery is severed, digital pressure or a tourniquet must be applied.

LACERATED WOUNDS. Wounds of this type often require the surgical skill of a physician, owing to the danger of infection and the necessity of changing the lacerated wound into an incised wound to prevent a disfiguring scar. Treat as described under "General Treatment."

PUNCTURED WOUNDS. The danger of punctured wounds is in carrying into the punctured tissue the spores of the tetanus bacilli. These spores are found in the earth and do not grow in the presence of air. Thus, a punctured wound containing tetanus organisms, which heals at the skin surface and thus keeps out air, allows the spore to grow and develop its toxin which soon produces so-called "lockjaw."

It is advisable in all punctured wounds, and in many cases of the deeply lacerated wounds, to have a physician inject a tetanus antitoxin as a preventive measure.

INFECTED WOUNDS. These are wounds in which bacteria have entered and which, if not properly cared for, may result in blood poisoning. Perhaps the best treatment for infected wounds in the early stages is the application of a saturated solution of Epsom salts applied in the form of a hot compress. This is a valuable treatment in any form of inflammatory condition. Have the patient place as much Epsom salts in a pitcher of warm water as will dissolve. Dip a towel or muslin compress in the water, remove the excess water and apply the compress to the wounded or injured tissue. This salt relieves pain, lessens swelling and acts as an antiseptic as long as the compress is kept moist.

Remember that "kernels" or enlarged lymph nodes are danger signs of a possible blood poisoning. No matter how slight the wound, the individual should rest the part, apply Epsom salts compresses and call a physician.

BRUISED WOUNDS. These are treated in general as lacerated wounds.

Prevention of Wounds

IT would be impossible to describe all the factors which may cause wounds or any other injury while participating in athletic activities. These causal factors are described in detail in Dr. Lloyd's book. Some of the means of preventing wounds and other injuries are as follows:

1. EQUIPMENT

Outdoors—(a) Clearance of space adjacent to the side and end lines of the playing area, so as to prevent collision with walls, posts and the like. (b) Removal of all extraneous objects from play-

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ing area. (c) Leveling of playing field surface and ground surface, which minimizes the seriousness of falls.

Indoors—(a) Keeping a floor surface which is not slippery. (b) Maintaining sufficient clear playing space and room beyond the side and end lines. (c) Weekly testing of all apparatus. (d) Proper covering of radiators. (e) Proper placing of mats in gymnasium.

2. Wearing Apparel

(a) Protective equipment made to protect the wearer and avoid injuring the opponent. (b) All pads properly adjusted. (c) Elimination of poorly fitting shoes, which cause blisters and sprained ankles.

Studies are now being conducted on the injuries caused by the various types of football cleats.

Summary

IN closing this brief discussion of wounds, I wish to emphasize these points:

1. No matter how small the wound, a virulent organism which enters the body may cause blood poisoning and death in a short time. One needs only to refer to the tragic death of former President Coolidge's son. When once bacteria gain a foothold in the body, the best medical skill may not be able to prevent a fatal termination.

2. Do not place too much reliance on antiseptics. Clean the wound thoroughly of all foreign material by soap and water.

3. Persons with punctured and severely lacerated wounds should be given a tetanus antitoxin.

4. Wounds about the scalp and face are twice as dangerous to life as wounds on the extremities.

5. Swelling of the lymph nodes is a danger signal which must be heeded.

6. A blister is a potential wound. Treat it as such by proper protection and precaution.

Remember that you, as coach or trainer, are morally responsible for injuries to your group. You are responsible for immediate first aid treatment; after that, if there is any doubt in your mind concerning the injury, insist that the injured person see his physician. You receive little thanks for more than first aid treatment, but you will receive a great deal of criticism if any complications arise. Why assume this responsibility? It is not yours.

Athletic Meetings in New York, December 26-29

THE annual meetings of four athletic groups will be held in New York City, December 26 through 29, 1934. The four groups, the National Collegiate Athletic Association, the American Football Coaches' Association, the Society of Physical Directors in Colleges and the Student Health Association, will hold separate meetings for the most part, but will also hold joint meetings.

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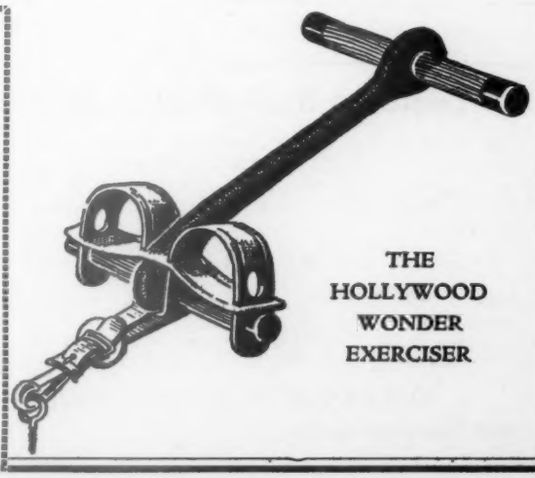

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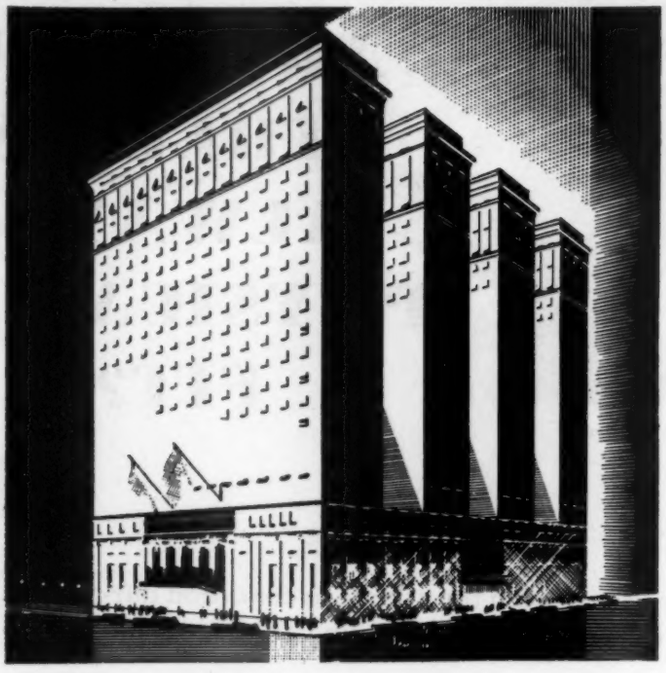

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